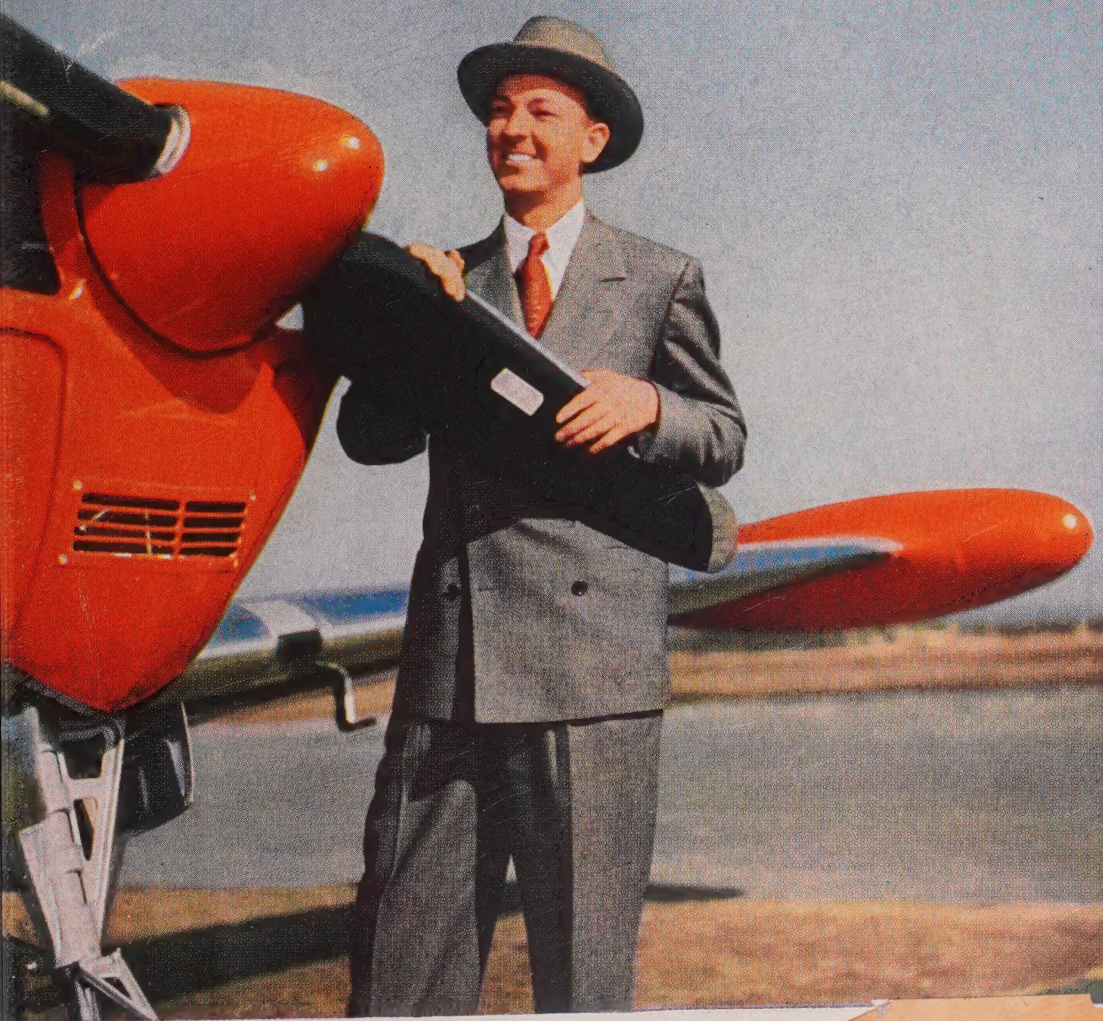


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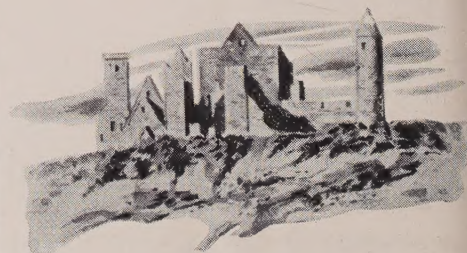
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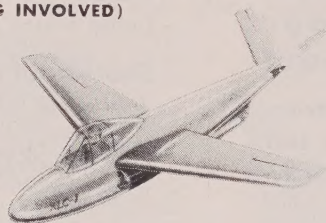
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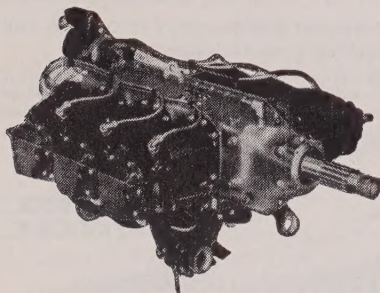
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# SKYWAYS

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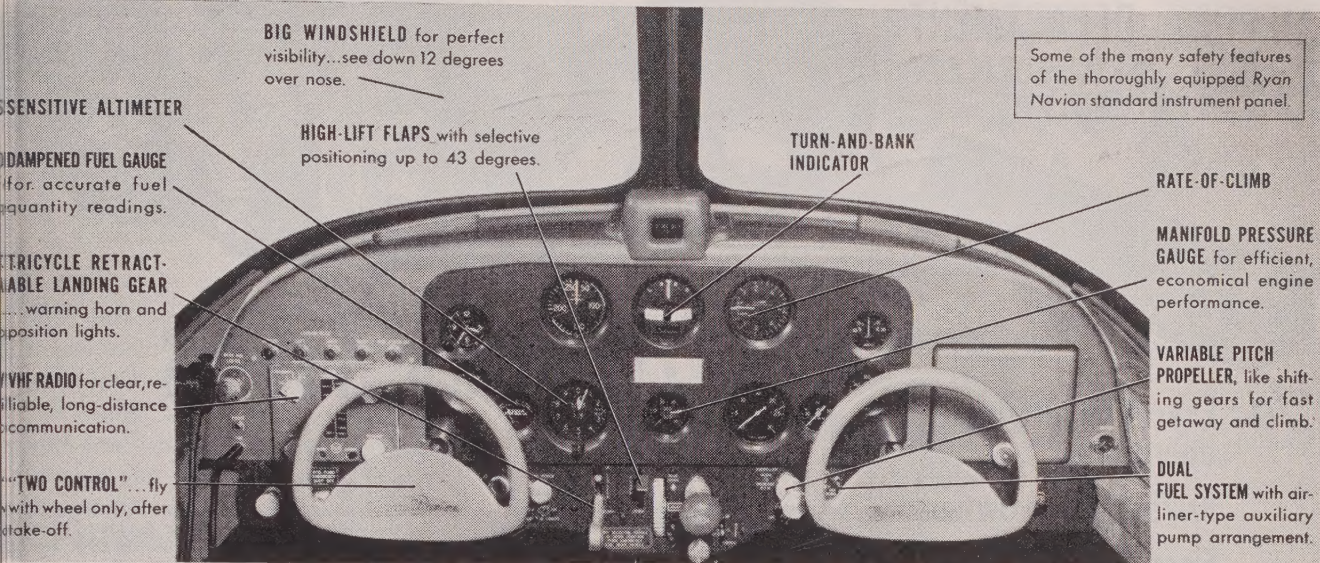
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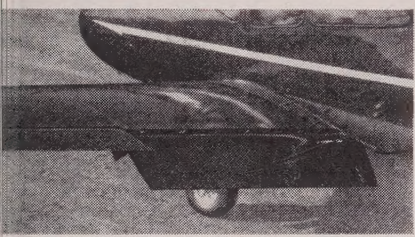
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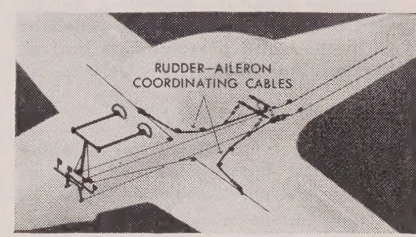
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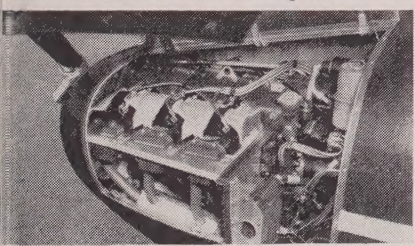
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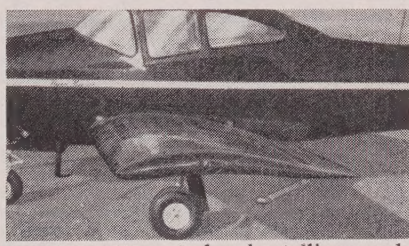
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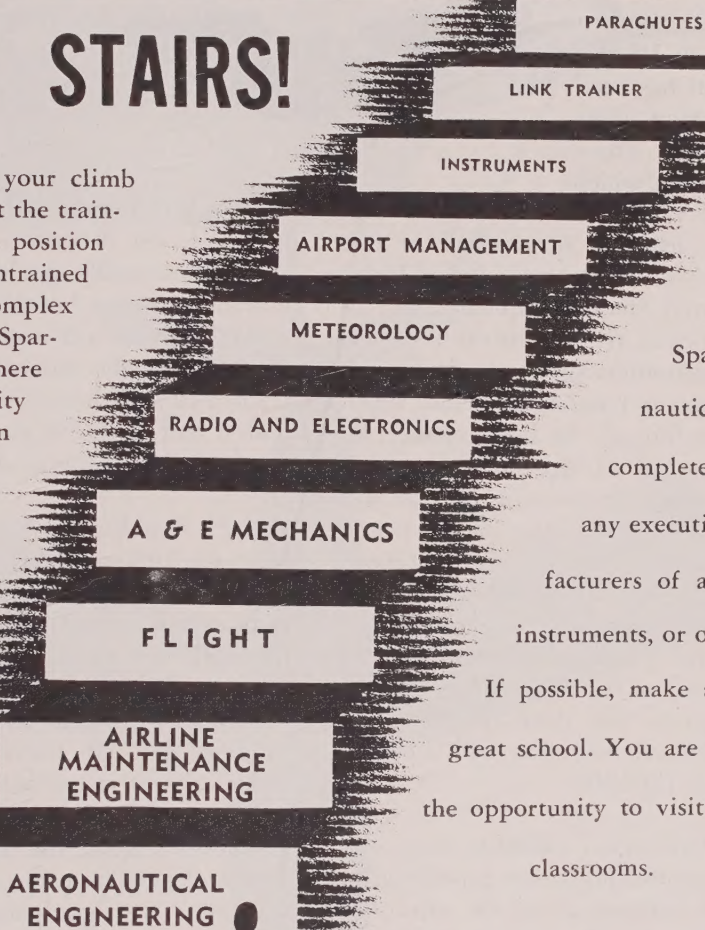


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# USAF NEWS



**A**N all-altitude speed course to clock USAF's newest aircraft has been put into operation near Wright-Patterson Air Force Base. The new system, which makes it possible to determine the speed of a plane within an accuracy of one-half of one per cent, employs two vertical radio beams transmitted from ground stations approximately 10 miles apart. The beams are established by means of VHF radio transmitters similar to those used in USAF's Instrument Landing Systems. When an airplane passes through the beam emitted by the first ground station, it triggers a chronograph and activates a recording mechanism. A second impulse is recorded when the plane passes through the second beam and the elapsed time is used to compute the plane's speed.

The speed course was devised and constructed by USAF's Materiel Command. Survey work to determine the center of the transmitting antenna and alignment points was done by the U. S. Coast Guard and Geodetic Survey with an accuracy of one part in 1,000,000.

**U**NIVERSITY of Washington scientists have completed a one-month mid-winter expedition to Alaska to collect information on the effects of Arctic temperatures on the human mind and body. Especially designed insulated clothing and instruments were tested successfully in temperatures ranging downward to 40 degrees below zero. Insulated clothing, made to order for the tests, enabled the scientists to measure body heat loss by means of wires and tubes running from the clothing to special instruments contained in a mobile field laboratory. A face mask designed at the University was used to measure the temperatures of inhaled and exhaled air. Although information is still being analysed, it was found that heat loss by inhaling sub-zero air is not as great as was expected, and that even the radiation from the weak mid-winter Alaskan sun had a marked effect on reducing body heat loss.

The experiments are part of a two-year research project for the Air Surgeon's office.

**S**TUDENT flight surgeons attending the School of Aviation Medicine at Randolph Air Force

Base will be given 10 weeks of flight training under a new program announced by the Air Force. Although no pilot rating will be awarded, the flying doctors will re-

ceive approximately 30 hours of dual instruction in the North American T-6. Those physically and professionally qualified to solo will get a maximum of five hours' solo time. The student flight surgeons will also receive four weeks of diversified flight indoctrination which will include a 10 to 15 hour simulated bombing mission with a unit of the Strategic Air Command, high gasoline after being modified to use jet fuel.

**U**SAF's 81st Fighter Wing is being transferred to the United States from Wheeler Air Force Base, Oahu, Hawaii. All personnel and equipment except aircraft—F-47 *Thunderbolts*—will be returned for reassignment. The *Thunderbolts* will remain in the Pacific Air Command. Although there are no other flying units there at present, the Air Force has stated that the Wheeler base is not being inactivated.

**I**NCLUDED among the 174 fighter pilot graduates of aviation cadet class 49-A, largest post-war class yet graduated at USAF's Fighter School, were 14 student pilots who flew the Lockheed F-80 *Shooting Star* throughout their advanced course. Each of the students logged approximately 90 flying hours in the F-80.

**A**LL USAF jet-propelled aircraft are being modified to use a new gasoline-type fuel which has been developed to replace the kerosene-type now being used. The new fuel will not materially affect the performance of individual aircraft although its higher volatility will improve high-altitude operation to a small degree and cold weather starting will be made easier.

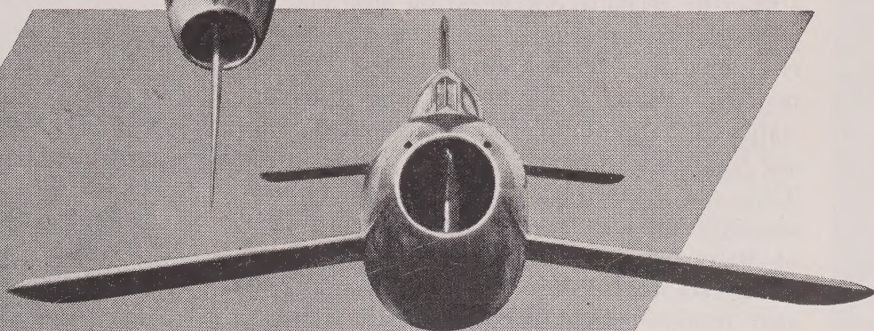
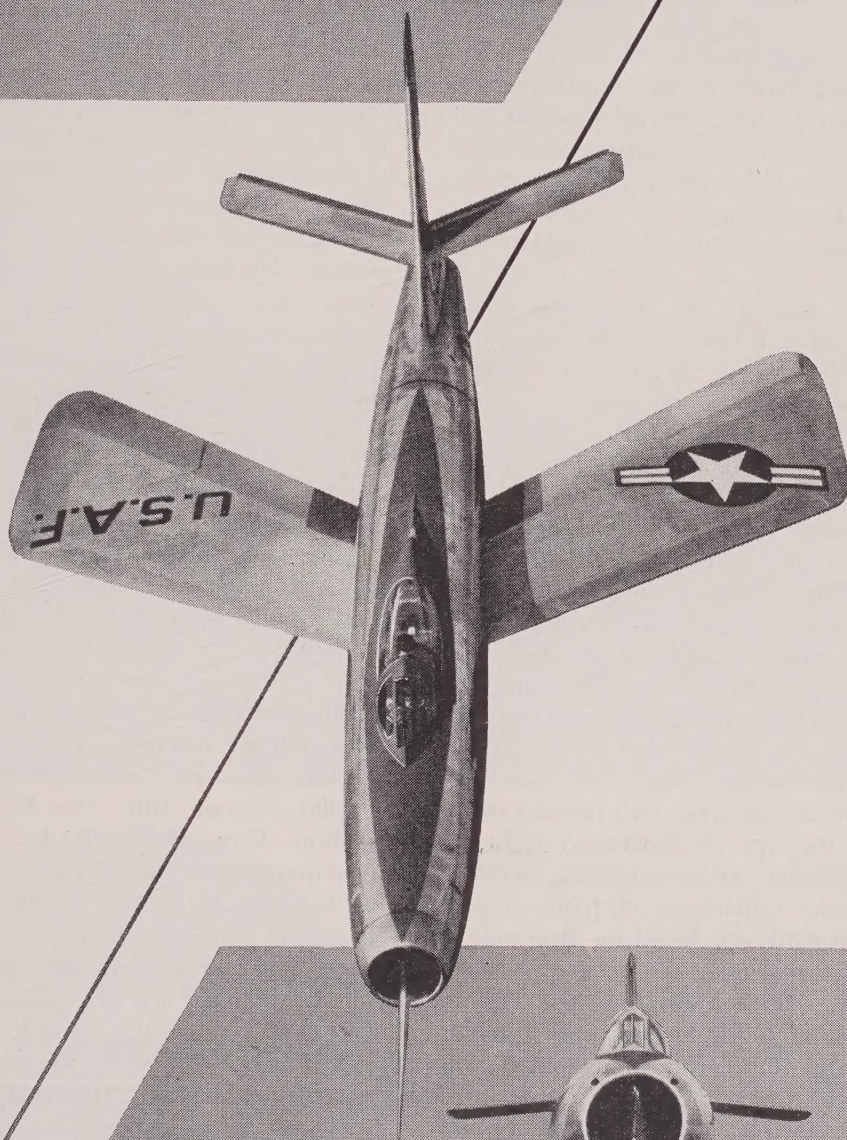
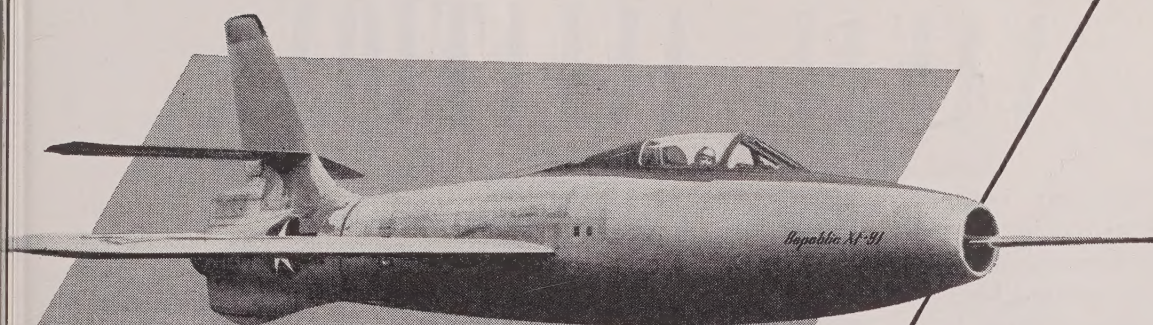
The new fuel cannot be used in reciprocating engine aircraft, although jet planes will be able to make emergency use of standard high-octane altitude and acrobatic fighter flights, etc.

**U**SAF's fastest jet fighter, the North American F-86, has been named *Sabre*. The *Sabre* holds the official world's speed record of 670.981 miles per hour.





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# NAVAL AVIATION

**D**URING the war, instruction at training commands was concentrated on getting Aviation Cadets through the program as fast as possible. In accelerating the training program many accidents were bound to happen and much of the former ridicule attendant when a pilot pulled a boner was eliminated. However, with the course of instruction now lengthened, flight safety is again getting the top attention of pilots and cadets. The by-word of the Bureau of Aeronautics is "Accidents don't happen, they are caused!" Naval Air Stations post daily list of "Accident Experts" who are awarded trophies for their blunders. Lowest on the list of awards are "Blunder Badges" which can also be given to ground crews as well as flight personnel. Inveterate smokers who wander into flight lines soon learn when to extinguish cigarettes if they are forced to wear a large badge stating "I am a first class Damn Fool." Other peacetime awards revived are, the "Order of the Flying Jackass" given for reckless flight conduct; the "Dumbell Trophy" and the "Solid Ivory Ball With Wings," bestowed for dangerous flying; and the "Furlined Thundermug" reserved for really "heads-up aviating."

**P**OSSIBLY forecasting what will become of aviators in the age of supersonic flight, the Navy Department in conjunction with the Applied Physics Laboratory of Johns Hopkins University recently developed an electronic reporting system that takes the place of a trained crew of observers in guided missiles. The system consists of several electronic "pick-up" stations strategically placed throughout the missile that record its characteristics during flight. These stations then transmit the data to a central clearing station in the missile actuating a series of galvanometers. As each one measures a change in the electric impulse, a message is sent to the ground control station. Thus, as the missile is traveling through the air at supersonic speeds, 60 simultaneous messages are transmitted to the observers on the ground. While the electronic relay system was primarily designed for guided missiles and projectiles carrying no crews, aviation experts predict that similar systems may be installed in aircraft for supersonic flight testing and operation.



**T**HE controversy over the largest passenger airlift on record, was recently settled when the *Caroline Mars* of Air Transport Squadron Two carried 269 passengers and crew members from NAS San Diego to NAS Alameda. Breaking its own record of 222 persons set the previous week, the *Caroline Mars* made the flight with a gross load of 150,906 lbs, more than seven tons under the maximum allowable 165,000. All passengers were equipped with seats and safety belts leaving room for at least 30 more persons. The flight was a routine personnel transfer of Airgroup 15 from the *USS Boxer*.

Previous airlift records were set by the Navy's dirigible *Akron* that twice lifted more than 200 passengers. In November 1931 the *Akron* carried 207 passengers and crew. The following June, on a nine-hour flight from Lakehurst, N. J., to New York City and return, she was airborne with 232 persons. Both flights of the JRM-2 outshone the record for heavier-than-air types set by the Dornier DO-X, also a flying boat, that in 1929 successfully flew with 169 persons aboard.

**B**RIGADIER General Thomas J. Cushman, commanding Aircraft, Fleet Marine Force, Pacific, who has administered the Marines' Pacific aviation from the Marine Corps Air Station, Ewa, Oahu, T. H., will move this headquarters to the Marine Corps Air Station at El Toro, California, in May, and the Ewa base will be deactivated.

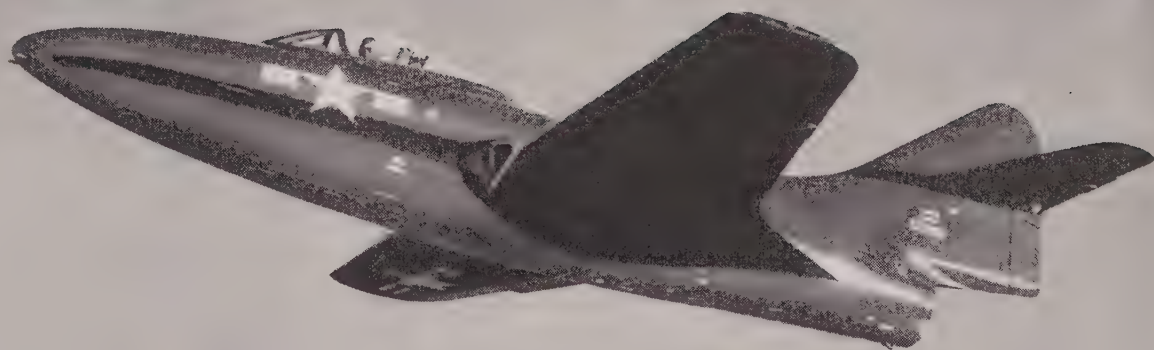
Most of the tactical units formerly assigned to his command are now enroute to the Marine Corps Air Station at Cherry Point, North Carolina, and to the newly reactivated air station nearby at Edenton. They will be attached to Aircraft, Fleet Marine Force, Atlantic.

Going to Edenton will be Marine Air Group 15 from Ewa, and to Cherry Point will go the headquarters, service, and observation squadrons of Marine Air Group 24 (reinforced) from Guam. Units of Aircraft, Fleet Marine Force, Western Pacific, formerly based at Tsingtao, China, have arrived in the United States to be based at Cherry Point, headquarters of the Second Marine Air Wing, and at Edenton.

Remaining units in the Pacific will be based in the Guam Area and at the Naval Air Station, Barber's Point, near Pearl Harbor.







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# PROP WASH

## Aero Oddities

**Ranch Hand.** California rancher E. T. Fillingner designed and built his own airplane, now uses it to do such ranch chores as checking irrigation pipe lines. With long-handled home-made wrench, he can turn pipe

valves off and on without leaving cockpit of his plane. (P. Clark, Los Angeles, Calif.)

**Coffee Run.** Gardner, Mass., man hops his plane from home airport to

DETACH AT BROKEN LINE

## DEAR READER

Because we don't want to be caught up here with our flaps down, we're anxious for a word from you. SKYWAYS is your magazine, and as your editors we want to know what you want. Look over the questionnaire, then give us your answers. Reply promptly as only 100 readers will receive a free copy of the next three issues of SKYWAYS.

## QUESTIONNAIRE

What stories and regular features did you enjoy the most in this June issue? On the lines to the right of the titles grade each article: 1—Good; 2—Fair; 3—Not interested in subject; or 4—Phooie!

Bonanza Bill.....	Dilbert.....
Needle-Nose NATIV.....	Opera. Engineering.....
SOS Sleuths.....	CAOA Report.....
Flying Treasure Hunt.....	CAP News from Hq.....
Pilot's Report: Midget.....	Air Your Views.....
Exec Planes Pay Off.....	USAF News.....
Magic Multiplier.....	Naval Aviation.....
Short-Haul Hopper.....	Prop Wash.....
Navy's Skyraider.....	X-C.....
Routine Miracles.....	Editorial.....

Do you like articles on military flying?.....Personal flying?.....

Are you interested in technical or semi-technical articles?.....If so, on what particular subjects?.....

Would you like to read articles on personal flying experiences?.....

Do you like Special Aircraft Sections?.....What are your suggestions for future issues of SKYWAYS?.....

What subjects would you like Bill Odom to write about?.....

Do you buy SKYWAYS on newsstand?.....A subscriber?.....

Something about you, but not too personal:

Name:.....Address:.....

Pilot's License: Student.....Private.....Commercial.....ATR.....A&E.....

Military Rank:.....Today: Res.....Active.....

Age: Under 21.....; 21 to 30.....; 30 to 40.....; 40 to 50.....; over 50.....

Do you own a plane?.....If so, what make?.....

If not, do you expect to buy one?.....

Do you use airlines?.....If so, how many miles per year: Domestic.....International?.....

Fill out and mail to: Research Dept., SKYWAYS  
444 Madison Avenue, New York 22, New York



Hiller Airport in Braintree, 16 miles away, to get morning cup of coffee. He prefers that to driving through town traffic and has proved it takes less time. (G. Coreau, N. Brookfield, Mass.)

**After You, Alphonse.** Student practicing take-offs and landings relaxed controls too soon after ship touched down. As result plane groundlooped, then skimmed over runway light when student quickly got back on stick. Again, student relaxed, and again plane groundlooped, skimmed over same runway light second time. This time instructor got on stick and held it . . . all the way back to the hangar. (J. Meacham, Columbus, Ohio)

**Good to Last Drop.** Former B-24 pilot, flying a *Cub* for first time, discovered he had only 8 gallons of gas left, so made emergency landing in farmer's field even though there were three airports within 30 miles. Several years of flying planes that burned gas at rate of many gallons per minute made pilot think an emergency existed when actually he had enough fuel to keep *Cub* aloft for a couple of hours. (J. H. Matthews, St. Louis, Missouri)

**Look Again.** During the war, a military pilot, faced with an emergency landing, had to jettison bombs. Spotting nearby airport he dropped bombs on it, then successfully completed forced landing. Soon as he crawled out of plane, he was arrested. Instead of being over enemy territory, as he had thought, and destroying enemy airport, he'd been flying over friendly territory, and actually bombed a friendly field. (A. van Ishoven, Antwerp, Belgium)

**Simulated Forced Landings.** When student pilot returned from solo practice, he reported seeing another aircraft flying in and out of nearby hay field. Instructor flew over to see who might be having trouble. Discovering it to be still another student, instructor signalled student back to home base. When student landed and was asked what he was

doing flying in and out of farmer's hay field, student replied, "You told me to practice emergency landings!" P. S. Instructor's reply is censored! (R. R. Maheu, Auburn, Maine)

**Follow the Leader.** On an aerobatic training flight, an instructor put ship into inverted spin. While attempting recovery, instructor inadvertently flicked catch on safety belt and fell out. Seeing the instructor leave ship, student adjudged something was wrong, bailed out too. Result: One plane lost. (D. F. Bean, McMinnville, Oregon)

**USAF Mounties.** Mulford, Utah, storekeeper decided to re-enlist in USAF as master sergeant under 90-day re-enlistment rule. Winter storms snowbound would-be recruit, prevented him from getting to USAF recruiting office. When recruiting officer learned of this, he assigned himself to "Operation Haylift," spent full day kicking baled foliage to cattle on range, then when C-47 landed on cleared flight strip near Mulford, recruiting officer tracked down his man, signed him up. (C. B. Kreher, Ogden, Utah)

**Highway One.** Because heavy fog shrouded San Diego area, airport was closed down and only one man left in control tower. Shortly before midnight, lone tower operator spotted pair of lights moving down runway. Quickly tower attendant turned on all field lights and dispatched field truck to find out who'd gotten down into field. Truck man found "pair of lights" belonged to tourist from Iowa who had become confused by fog and turned his car into field thinking it was part of highway. (W. M. Bodie, Alpine, California)

#### Att'n Readers:

If you have any news note oddities pertaining to aviation, send them to SKYWAYS, Box 17, 444 Madison Avenue, New York 22, N. Y. Five dollars will be paid the sender of each "oddy" printed. Contributions cannot be returned unless accompanied by stamped addressed envelope. The decision of the editors is final.

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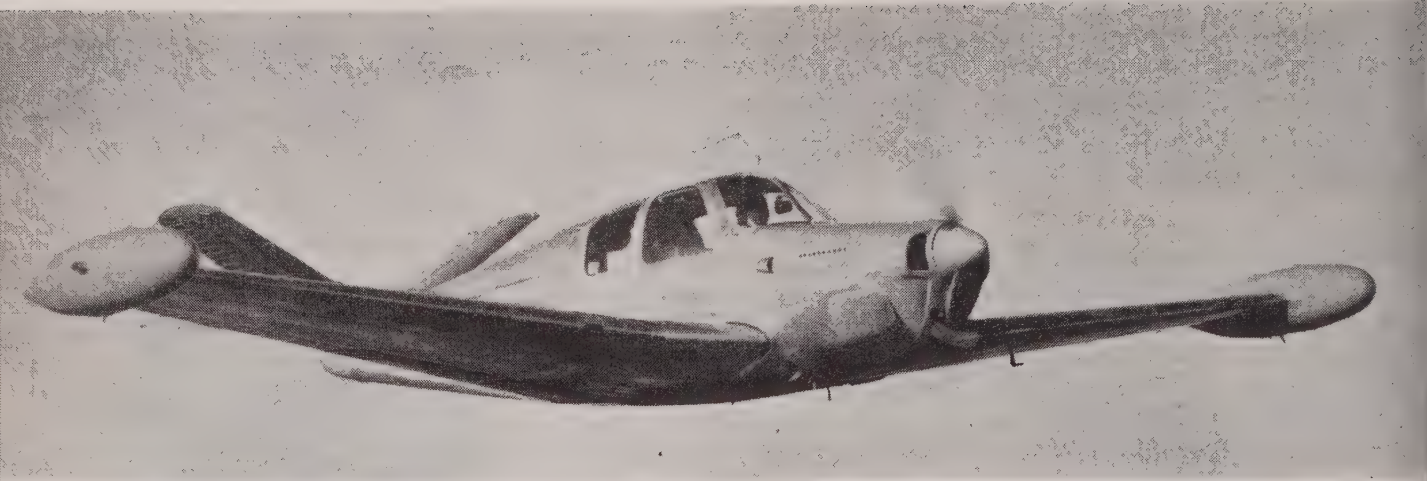
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**BEECH BONANZA** with Bill Odom at controls winged it from Honolulu to Teterboro, N. J., non-stop in 36 hours 2 minutes



# BONANZA BILL

By **BILL PRICE**

**T**HE prettiest thing in the world, according to Bill Odom, is dawn coming up on the horizon.

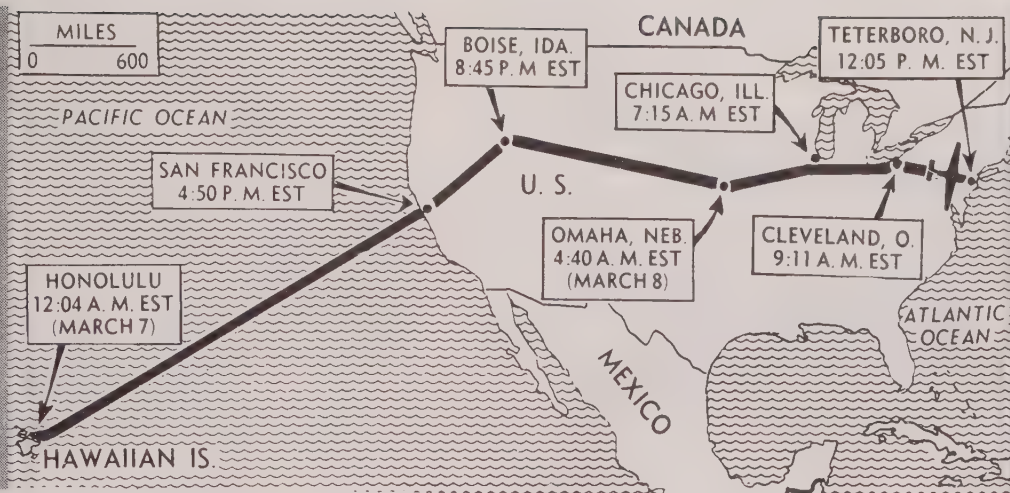
"It has its practical value too," this veteran round-the-clock pilot adds, "you can see what's happening then."

Dawn came up twice for Odom during his sensational non-stop junket from Honolulu to Teterboro, N. J., in a Beechcraft *Bonanza*—

**THRONGS** greeted Odom at Teterboro (below) when he landed Ma







**ROUTE** that Bill Odom flew is shown here on map. Actual distance he covered in "Waikiki Beech" was 5,304 miles

once (March 7) over the rolling wastes of the Pacific, and again (March 8) as the Mississippi River rolled under his nose.

For 36 hours, while you and I twice slept through the night, Odom droned through blackness, sunlight and weather on the simple chore of breaking his own lightplane distance record.

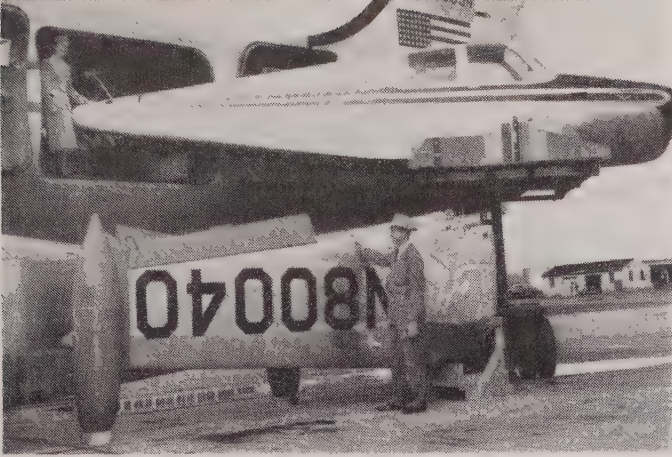
When you talk to Odom, you gather that's about all this record-breaking non-stop flight of 5,304 miles means to him—a simple chore—even though he admits he got quite a kick out of it. (*The official distance flown by Capt. Bill Odom on his non-stop flight from Honolulu to Teterboro, N. J., was 4,957.24 miles, according to a statement from the National Aeronautics Association. The association, which acts as the American section of the Federation Aeronautique Internationale, world aviation body that passes on all records, explained that although Capt. Odom actually flew 5,304 miles he could receive credit under the FAI rules only for the Great Circle distance, the shortest possible route, between Honolulu and Teterboro. Not only did Odom set a long-distance record, but*



**PT. ODOM** (right) waves to crowds before take-off March 7th



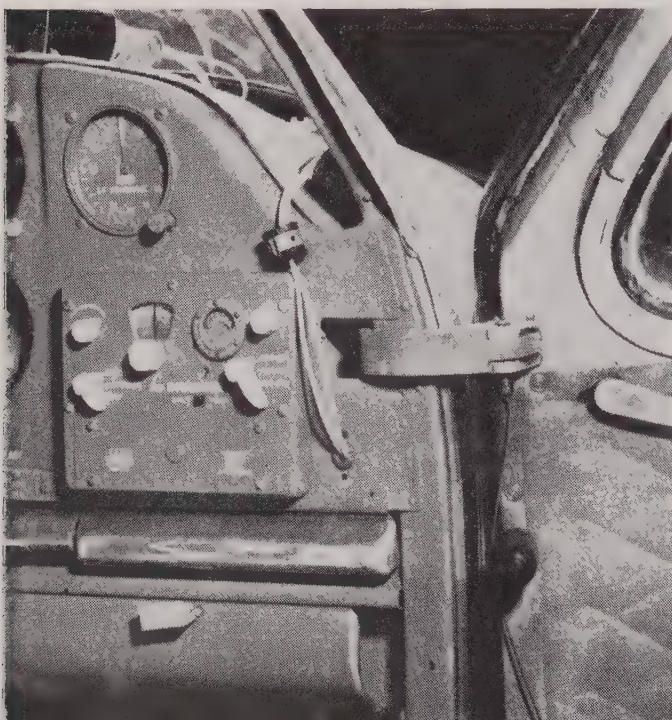




**WAIKIKI BEECH** was flown to San Francisco, disassembled, then loaded aboard Pan Am cargo plane for trip to Hawaii



**PHOTO** of Odom, shown here accepting congrats right after he landed at Teterboro, shows Bonanza's well-loaded cockpit. Extra gas tanks and emergency equipment left space for Bill . . . and that's all. Photo below shows Lear ADF



*his was the longest non-stop solo flight ever made in any type plane.—Ed.)*

I got my crack at Odom on C (for Chore) Day plus two in his New York hotel room after he had slept himself out and his eyes again twinkled with enthusiasm about anything flying. The 29-year-old pilot is a lanky character, six feet tall, quiet mannered, but inclined to smile quickly and laugh heartily. He dresses soberly, is addicted to a Glen Plaid "Lucky Suit" which he wears while flying, and is somewhat bemused by the premature disappearance of his light blond hair. There is a warm, friendly feeling about the man, and a refreshing absence of pretense.

He reacts to talk of his flight modestly, but when he stepped from his "Waikiki Beech" in front of the Atlantic Aviation hangar at Teterboro. Odom had behind him more than an amazing record of human endurance—and a new long-distance trophy. He had also proved something important about the lightplane.

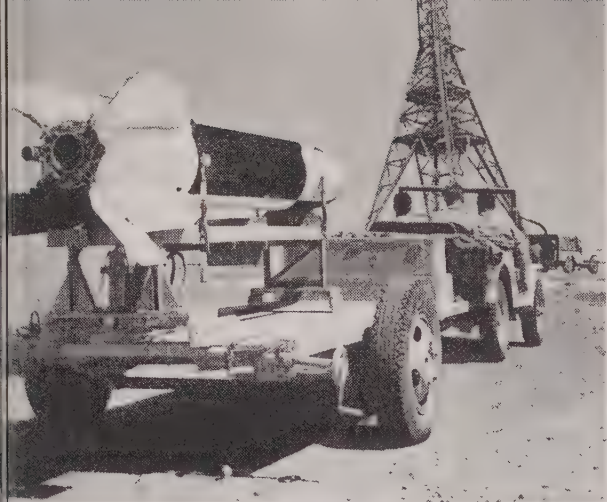
Odom is essentially a multi-engine man. His still-standing round-the-world speed record was done in the twin-engine "Reynolds Bombshell," a converted A-26 attack bomber. As an RAF ferry pilot during the war, he flew big planes almost exclusively. Later he flew transports over the "Hump" for Chinese National Airways. His more recent escapades have been in China where he and his former round-the-world sponsor, Milton Reynolds, went to look for a legendary mountain higher than Everest. On this jaunt he used a C-87, cargo (Continued on page 45)

**TWO YEARS AGO** Capt. William P. Odom showed world he could do it when he flew solo around the globe in the A-26





# Needle-Nose NATIV



**NATIV** is hauled to its launching tower where it will be test fired. Missile's trajectory altitude is 10 miles

**O**NE OF the newest guided missiles to be announced by the USAF is the North American Test Instrument Vehicle . . . or NATIV, as it is known. Over two years in development, the NATIV lately has been undergoing firing tests at the isolated firing range near Alamogordo, New Mexico.

With a diameter of 18 inches and a length of 13 feet, the needle-nosed NATIV's have been fired from a specially constructed metal launching tower. The guided missile is powered by liquid-fuel rocket motor. When fired, the missile moves on guided rails within the launching tower during first few seconds after firing. The rocket climbs 10 miles at supersonic speeds. ✈

**POWERED** by liquid-fuel rocket motor, missile flames out of its launching tower to attain supersonic speeds

**TECHNICIANS** maneuver the missile (below) into its track in the launching tower. Four movable fins give it control





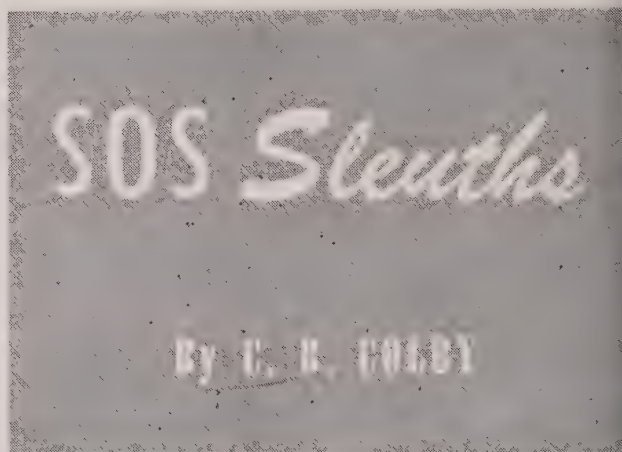


**GLIDER PICK-UP** rescue, first in history of arctic flying, was accomplished by 10th Rescue Squadron in Alaska.

An AF C-54 towed glider to scene, then picked it up again and towed it to Northway. Note C-47 down on the ice



**AIRMEN**, marooned in 25-below-zero weather, gathered around fire to keep warm. Photo was made by sixth airman. Props on "Queenie" (below) tell story. Right engine went out, pilot feathered prop, in landing one blade was damaged



**SURVIVORS** of downed C-47 spent the night in this improvised shelter. Sleeping bags provided the warmth



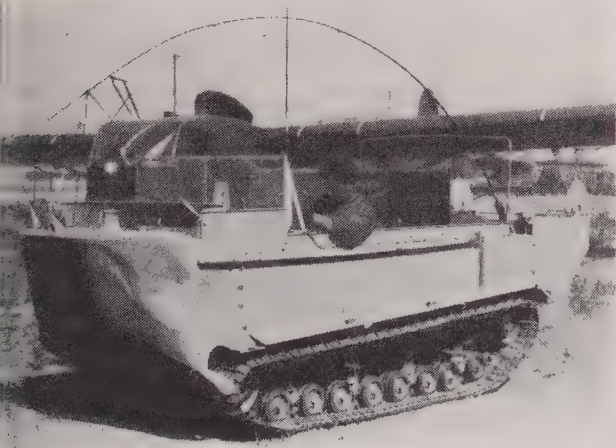


**Y**OU'VE been a damn fool . . . but it's too late to do anything about it now. You took off from that Alaskan airport without checking the weather all the way through to your destination. You said you'd be there in four hours . . . it's now nearly five hours and you don't know where in h— you are. Neither does anyone else.

Under the wheels of your aircraft unexpected clouds have concealed your route . . . a course over some of the dirtiest forced-landing terrain in the world, even in summer. Better do something quick or you won't even have time to worry much longer.

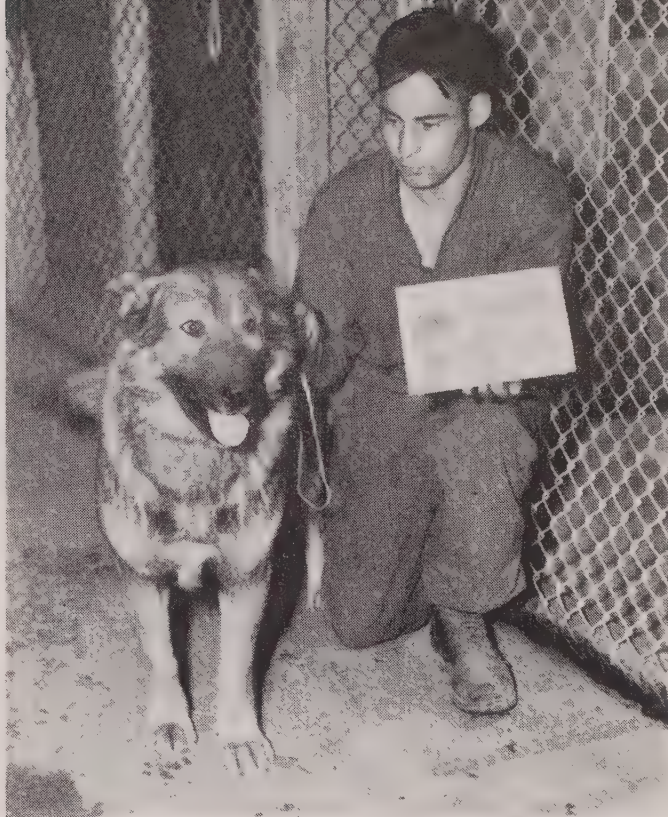
The nose of your condemned ship drops and you start down through the clouds hoping it doesn't have a "solid center." It doesn't, and you burst out into the gloom of a river valley between snow-plastered crags. Up ahead, in a wide spot in the river, you spot a long sand bar. No room for a decent approach. You get one chance. No more. Pull that safety belt up a notch and don't forget to cut that switch when you hit.

**WEASEL** is radio-directed amphib for ice floe and swamp-tundra rescue. Driver of "Weasel" gets orders via radio



You side-slip down, level off and flare out for a what-the-hell-here-we-go landing. Wheels bounce across the sand, splatter over a wet spot and drop neatly into a ditch you can't miss. There's a whirlpool of sky, river, cabin walls and dust. When things settle down, you are hanging by your belt with dirt dropping into your face from the splintered floor above you. Brother, you've *had* it!

Out of the thoroughly demolished aircraft you crawl. One thing is painfully obvious: you are in a hell of a mess. If you leave the wreck, you'll never be found. If you stay with it, the chances aren't much better. It looks permanent either way. You decide (*Continued on page 58*)



**PARATROOPER JOE** is one of Group's dogs that are chuted to rescue scene. Dogs like it, wag tails on way down



**RADIO** equipment of "B" at Ladd Air Force Base can contact all aircraft and radio-equipped vehicles for rescue. Helicopter (below) is one of "B" Group's most useful aircraft. One in foreground is Sikorsky R-5A; background, R-5F







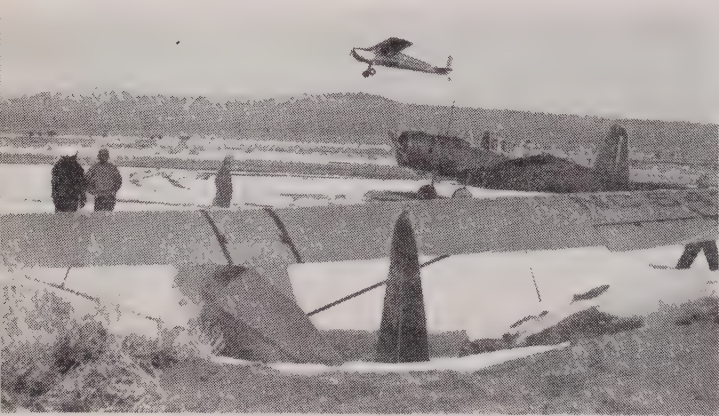
**PILOTS** participating in treasure hunt gather around Pancho Barnes for pre-flight confab and first set of clues.

In all, 125 plane loads of 20th Century buccaneers joined in the hunt for buried treasure "somewhere in desert"

# Flying Treasure Hunt

**T**WENTIETH Century buccaneers, 125 plane loads of them, gathered at Pancho Barnes' airport for a treasure hunt and barbecue recently. Object of the flying search was a wooden treasure chest containing 100 silver dollars, a gold belt buckle, a silver brooch and assorted souvenirs.

The airborne treasure hunt started and finished at Pancho Barnes' desert airport adjoining the USAF's Muroc test base, just 50 airline miles from Los Angeles. Aided by the only weekend of decent flying weather in a month, the get-together proved so successful that it is to be continued as an annual affair.

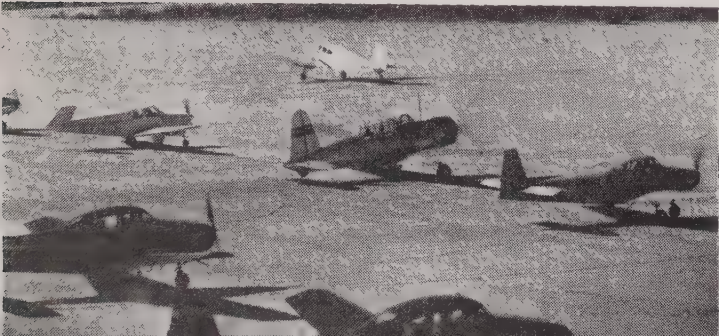


**FIRST STOP** was at Gus Breigleb's field, on airways map as "Mirage Airport." Here Cessna takes off on clue hunt



**CLASS III** airplanes included Navions, Bonanzas, twin Cessna's, etc. Class I's were Cubs, Aeronca's, T-crafts

**CLASS II** planes, including Cessna's, Stinson's, etc., leave Pancho's field, on their leg of the treasure hunt



**SECOND STOP** was at Victor 66 near Victorville. Layer of snow made operations bad, so ships took off from highway







**LAST STOP** was the take-off field, Pancho Barnes' airport. Here a Bellanca Cruisair finishes flying hunt

A 138-mile round-robin course, complete with clues, was flown by pilots in each of four weight and speed classifications. After landing at three other desert airports, the planes returned to Pancho's where four more clues led to the final treasure.

In spite of many new planes entered in the hunt, the winning couples flew a 1937 Fairchild "24." Fortunately for the Fairchild, its owners were quick with the decipher. As a memento of the contest, hostess Barnes presented each pilot with a small gold-plated pin in the design of a treasure chest with wings.

Other airports please copy!

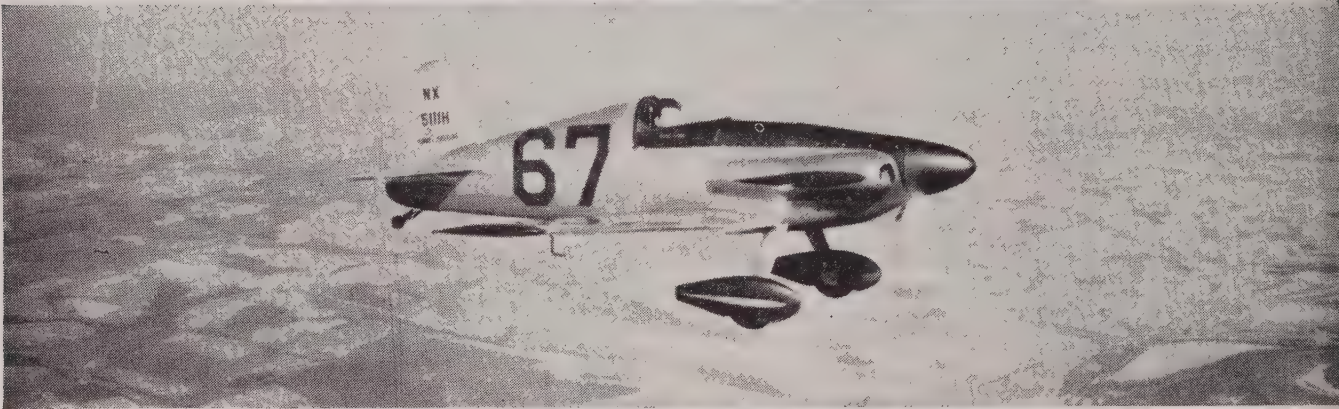


**FINAL CLUE** was deciphered by the Hawkins and Margwarths, who commandeered a buckboard for a ride to treasure spot. Victors (below) uncover the spoils. Having figured out clues properly, two couples dig and discover the \$200 treasure





# Pilot's Report... Midget Mustang



*By Gloria Heath*

**T**HE fad for miniatures is paying off . . . in the aviation field, that is. Quite recently a young fellow with a lot of aeronautical engineering know-how and plenty of pylon turns under his cap came up with a new design for a combination sportplane and racer. Called the *Midget Mustang*, this single-place airplane may be what those hundreds of sportplane flyers have been waiting for.

Your correspondent, an ex-WASP with a yen for air racing, recently made a trip to Lock

Haven, Pennsylvania, via AT-6, for a close-up look at the *Midget Mustang* and a bit of close-in flying. I left New York at 8:30 Sunday morning and arrived at Cub Haven Airport just a couple of hours ahead of a front. Taxiing the AT-6 up to Operations, I climbed out and dashed inside the building to meet Dave Long, designer and builder of the *Midget Mustang*.

Dave, who has been flying for 15 years and who spent the war as a flying member of the ATC, is Chief Design Engineer for Piper Air-

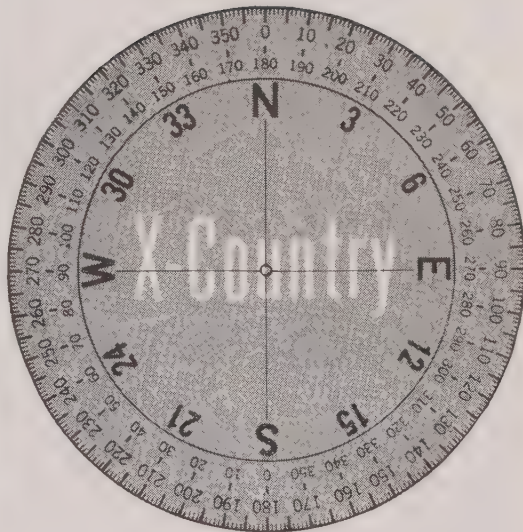
**MIDGET MUSTANG** shows photographer its talent for inverted flying. The tiny ship was designed for speed and aerobatics







**MODEL J-A** helicopter, developed by Helicopters, Inc., is intended for military rescue work. This latest model can carry three litter cases. It is powered by 450-hp Pratt & Whitney, cruises at 94 mph.



**FLYING SERVICE** operator Wismer Holland (left) gets more than air transport from his Ercoupe. Equipped with steerable nose wheel, detachable wings, this Ercoupe is roadable. Note its prop screen.

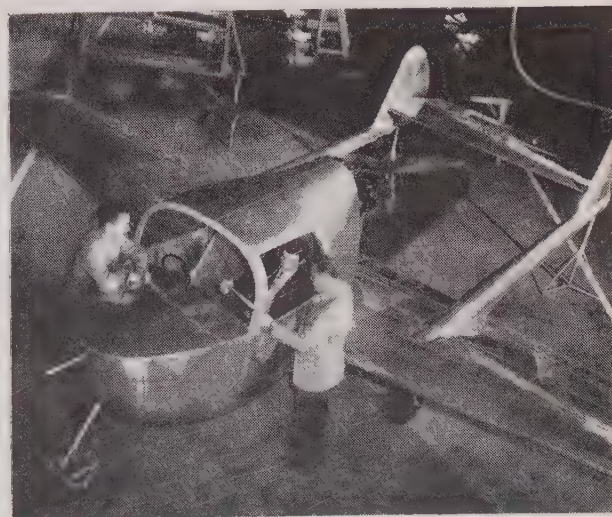


**CROP DUST** version of Piper Cub is equipped with tank, pump and multiple nozzles developed by Art Whitaker of Portland, Ore. All spraying apparatus is located outside of the airplane.

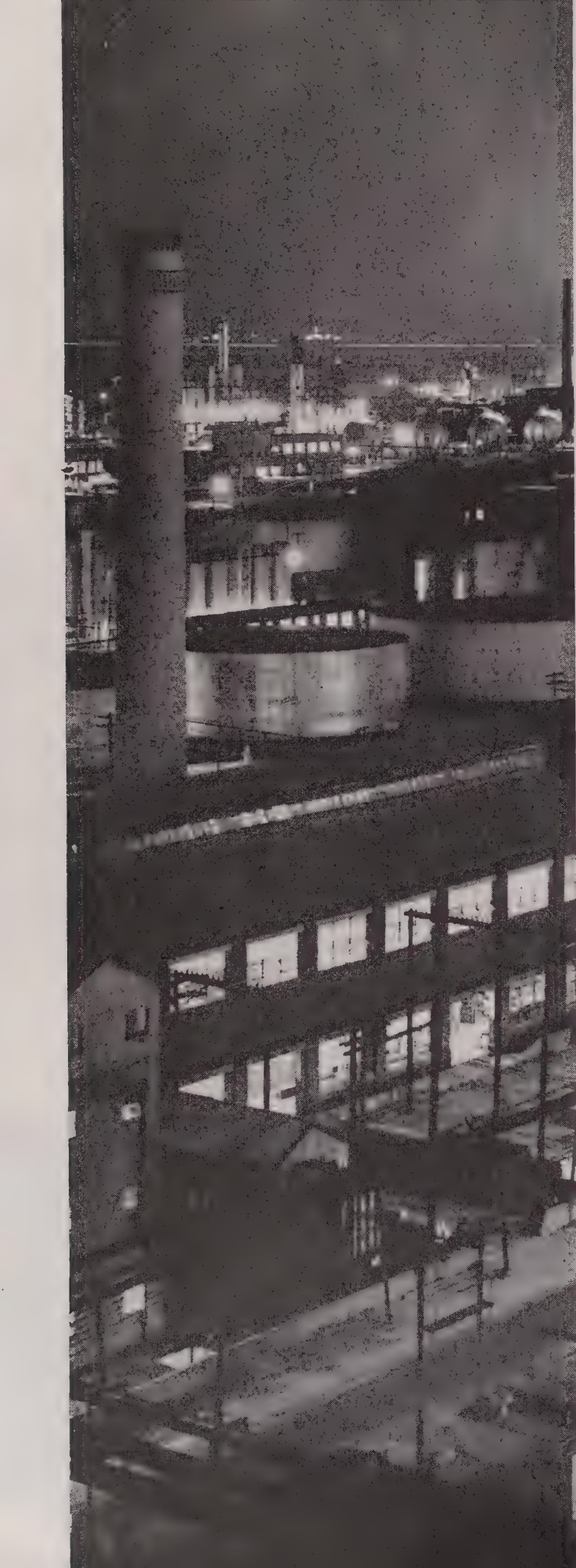
**BRANTLY** helicopter is a two-place side-by-side 'copter powered by a 150-hp Franklin engine mounted amidship. It has coaxial rotor system, universally mounted. Rotor diameter is 29 feet; fuselage is 18 feet long. Two new all-metal versions are being built by Brantly.



**NORTHROP** Aeronautical Institute students, in process of building a so-called "dream plane," are shown here working on all-metal mock-up of ship.







# EXECUTIVE PLANES PAY OFF

By **DON ARMSTRONG**



**STINSON RELIANT**, popular 1940 five-placer, is one of a fleet of planes owned and operated by the Gulf Oil Corp

**T**HE widespread use of the airplane by the oil industry is a wedding of two industries deeply rooted in the development of American business. Today, the oil companies of the United States operate a fleet of several hundred business or executive aircraft.

Aviation and petroleum are partners of long standing. And today, as the oil industry labors to meet a world demand for its products, it is relying more than ever on the utility, speed and distance-shrinking abilities of modern aircraft.

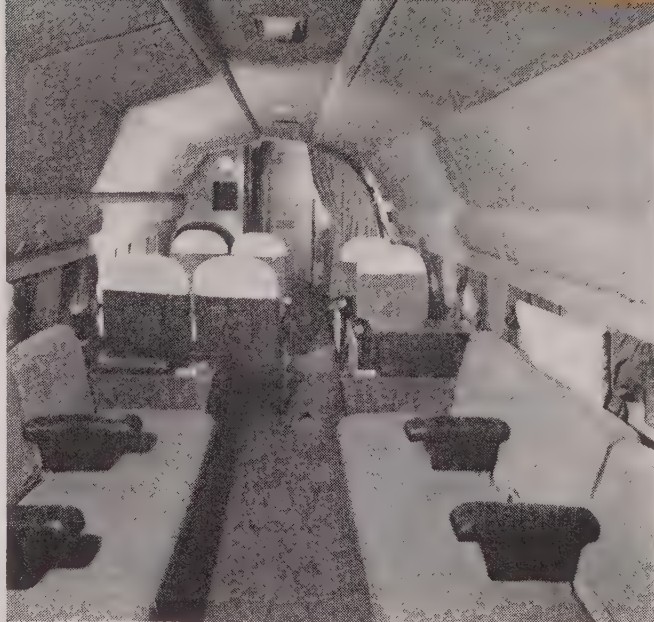
One example of the oil industry's use of the airplane rests with Gulf Oil Corporation. This company alone owns and operates 28 airplanes in the furtherance of business. The Gulf hangar houses a fleet of ships ranging from DC-3's to

**OIL REFINERIES**, oil fields, executive offices are miles apart. Time and these distances require plane travel

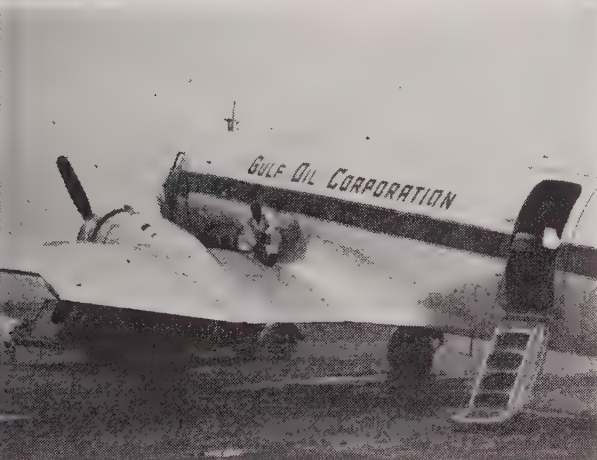


Stinson *Voyagers* . . . and the jobs those ships do are as varied as the products they help produce. While one ship is air-ferrying executives to an important meeting some place, another ship is hauling essential oil production materials. Still another airplane may be "special delivering" an important replacement part to a refinery; and still another ship is probably doing search-for-oil work as part of the company's scientific research program. Twenty-eight airplanes are easy to keep busy, as executives and research men of Gulf will confirm.

The Gulf fleet of planes is made up of aircraft assigned to particular divisions of the company. The executive branch, for example, has a DC-3 which is handsomely fitted and equipped to carry as many as 18 company officials on business trips. The executives also



**INTERIOR** of corporation's DC-3 bespeaks comfort and utility. This DC-3 will carry 18 on X-C business trips



**EXECUTIVE DC-3's**, handsomely fitted and equipped, are used to fly company executives on business trips in U. S.



**TWIN-BEECH**, owned and operated by production and research departments, is one of best-liked planes in fleet

have a twin-Beech which will carry five officials, plus pilot and co-pilot.

The production and research departments of Gulf have two Lockheed 12's, a Lockheed Lode-star, an AT-18, a Grumman *Goose* and two Beech D-18's for use in its domestic operations. The foreign production department flies two DC-3's and a Beech *Bonanza*, while the Gulf Research and Development Company, a subsidiary of the Gulf Corporation, operates a Grumman *Goose* and a Douglas DC-3. Both of these ships are used for magnetometer surveys (See *Skyways*, February, 1949).

This fleet of airplanes that is kept in operation by Gulf represents no small investment. But it is money well spent . . . the financial way of saying, "Each airplane pays for itself."

Back in 1933, Gulf had one airplane and one field representative who (Continued on page 57)



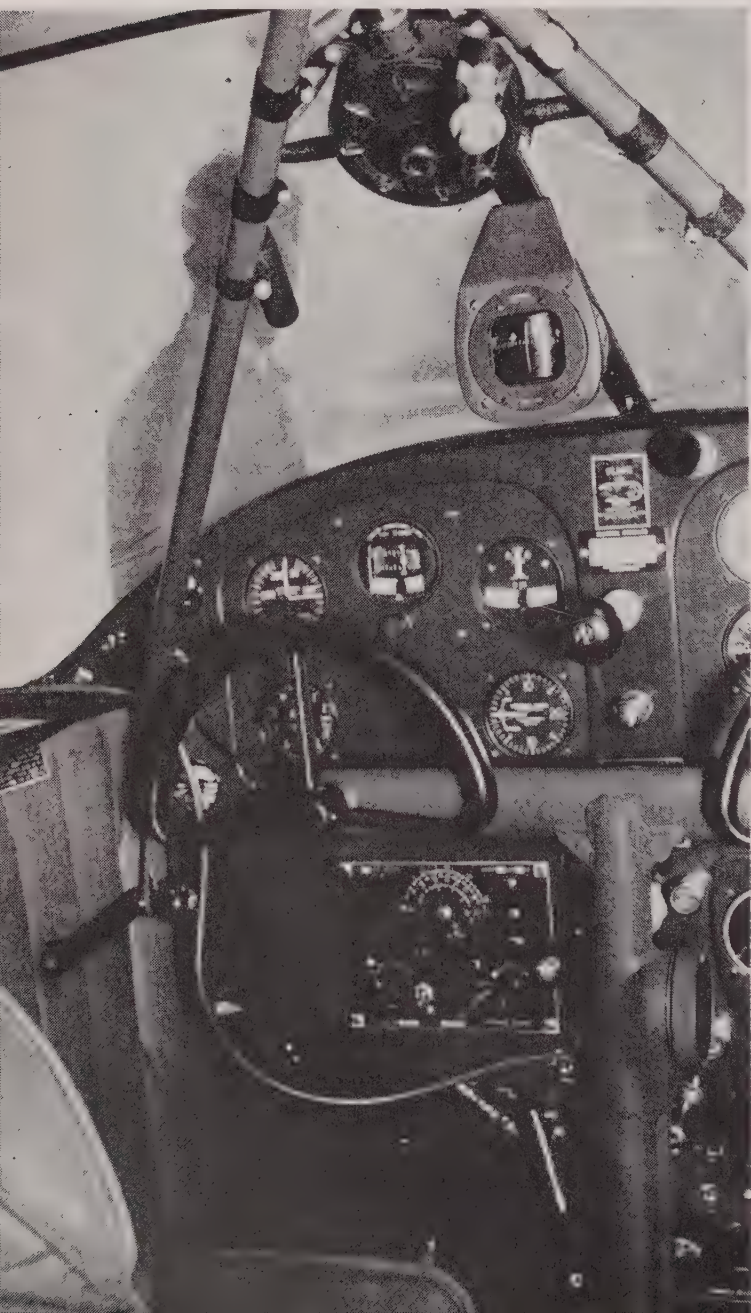
**CABIN** of the Twin-Beech seats five comfortably. This ship is used solely in domestic operations of Gulf Oil



# Magic Multiplier

By BEN ROBIN

**TRAILING ANTENNA** can increase range of your transmitter from 10 miles to as much as 50 or 75 miles. Reel for manually winding in the antenna is located on this ship (below) at top center of cabin between the braces



CAN you talk to an airport tower 50 miles away? This is an easy feat with even the lowest powered transmitter. 'Radio-range stations and airport towers can be as close as your microphone. The "magic multiplier" is a trailing antenna. It will increase your transmitter's useable range five times or more. If your transmitting range is 10 miles on a fixed antenna, 50 or 75 miles is easily possible with a trailing wire.

The majority of trailing antenna installations incorporate a reel for winding in the antenna when not in use. Some of the larger executive planes have an electric motor to do the reeling in, but most private-plane installations utilize the pilot's strong right arm. Some airline installations (Lockheed 10) I have seen, leave the trailing wire out at all times. This necessitates coming in high over obstructions during the approach to landing. If your trailing antenna will reel in, it is better to land with the wire coiled up inside the ship—a lot better!





**MAGIC MULTIPLIER** is mounted here on a Cessna Airmaster. This ship, powered by 146-hp Warner, was built in 1941

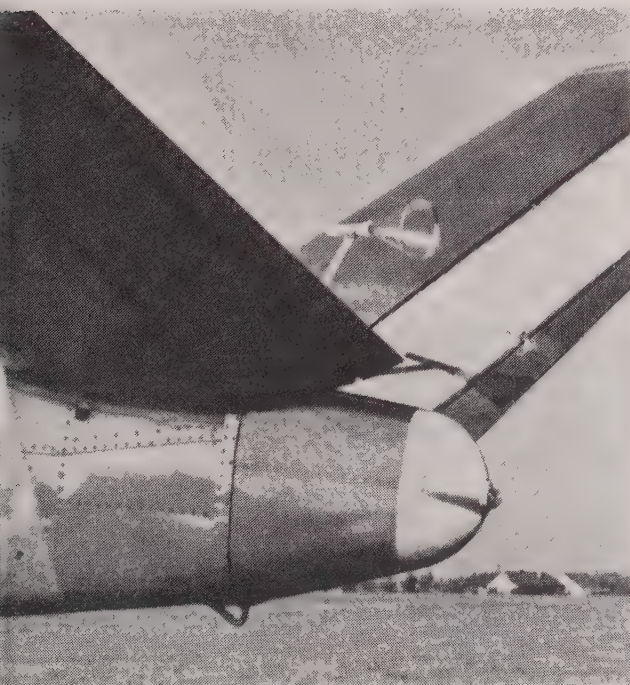
A few years ago, I watched a young lady drag her ship in on a long, low power-on approach. Her trailing antenna, with the little wind sock, floated in the breeze behind and slightly below her. She managed to land safely, but in so doing, dragged two of the neighborhood aerals, some wet wash and a telephone wire along with her. The trailing antenna never broke, but dragged the load of newly acquired accessories right up to the hangar apron. To put it mildly, the girl was quite surprised to see displayed on the ground behind her the fruits of her long, low approach.

A kindly airport attendant escorted the girl,

now blushing and quite flustered, over to one of the local aircraft. I trotted along to see what was going on. There the attendant pointed out a simple and easy way to always remember to reel in a trailing antenna before landing. Simply purchase (or steal from Ma's laundry basket) one clothespin. The pinch-together type, with spring installed and a scissors action, is best. Clip this clothespin to the trailing antenna reel when the wire is in. Before letting the trailing wire out, remove the clothespin and clip it to the throttle. You will be sure to see it when you start to reduce power in the airport traffic pattern, prior to

*(Continued on page 56)*

**BEECH BONANZA** shown here is equipped with an automatic trailing antenna. Note transparent cone between V



**EXECUTIVE** twin-engine ship in this case has its automatic antenna mounted on side of tail below the stabilizer





# SHORT-HAUL HOPPERS



**AMPHIBIAN AIR TRANSPORT**, flying between L. A. and Catalina, use three Sikorsky S-43's (above), two Grumman JR5's

**FLIGHT** from Long Beach Municipal to Catalina takes just 17 minutes. This Grumman Goose taxis to take-off runway

By **DON DOWNIE**

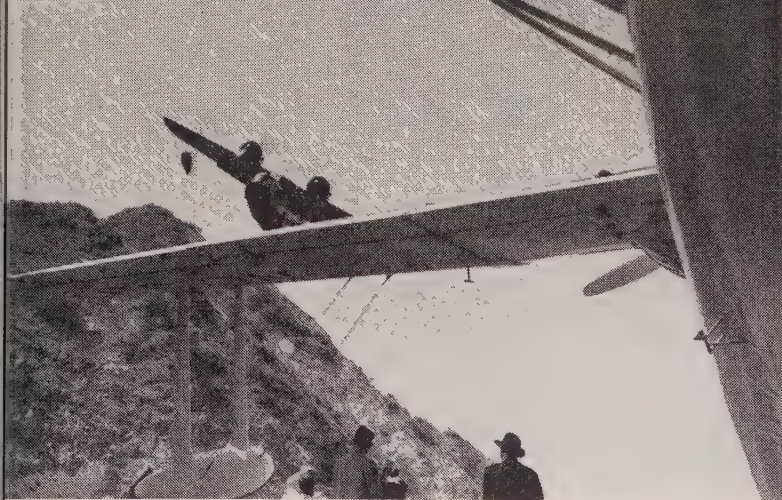
**M**EET one of the world's shortest airlines—Amphibian Air Transport, and also one of the world's shortest routes—32 miles!

While trans-continental and international airlines sell service over routes covering many thousands of miles, here's an airline that tickets only one short hop—and is making money.

Entering its third year of successful puddle-jumping, the Amphibian Air Transport now has three routes; all short and all to the same destination—Catalina Island. Shortest of these flights is from Long Beach to Avalon Bay at the famed pleasure resort off the California coast. That







**GRUMMAN GOOSE** drags seadrome at Catalina Island while one of Amphibian Air Transport's 22-place Sikorsky's unloads guests



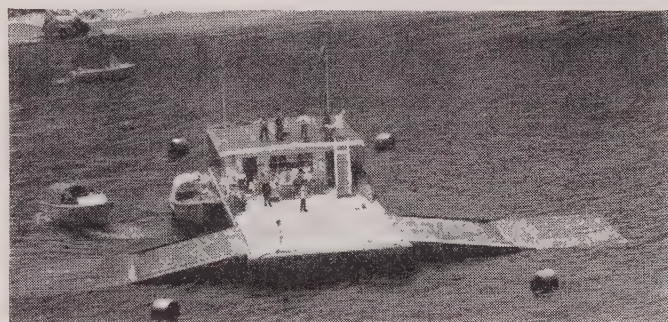
**SEADROME** christening was a "Hollywood affair" with usual bathing beauties

hop is 32 miles. Two slightly longer flights travel from the Los Angeles Municipal and Burbank Airports to Catalina.

True to its name, the Amphibian Air Transport operates both on land and in the water. All mainland flights originate at regular commercial fields, while landings at the Island are made in the smooth water of Avalon Bay. Up to 28 flights per day were scheduled last summer during the busy tourist season.

This airline is run by three young men, all without previous air transport experience. President Ken Brown supplied the capital for the airline's five planes; 3 Sikorsky S-43's and two Grumman Goose's. Mr. Brown makes his money building vending machines for cigarettes and bottled soft drinks. Vice President Chuck Hunsinger is a former flight instructor and aircraft salesman who became interested in this airline idea when he met Robert Stewart, now Secretary-Treasurer, at the Compton Airport where Mr. Stewart was trying unsuccessfully to purchase a used Grumman amphibian. Stewart had the business license to operate the airline, but not the capital to get started in operation.

"You must have a passenger potential to make any airline a success," (Continued on page 55)

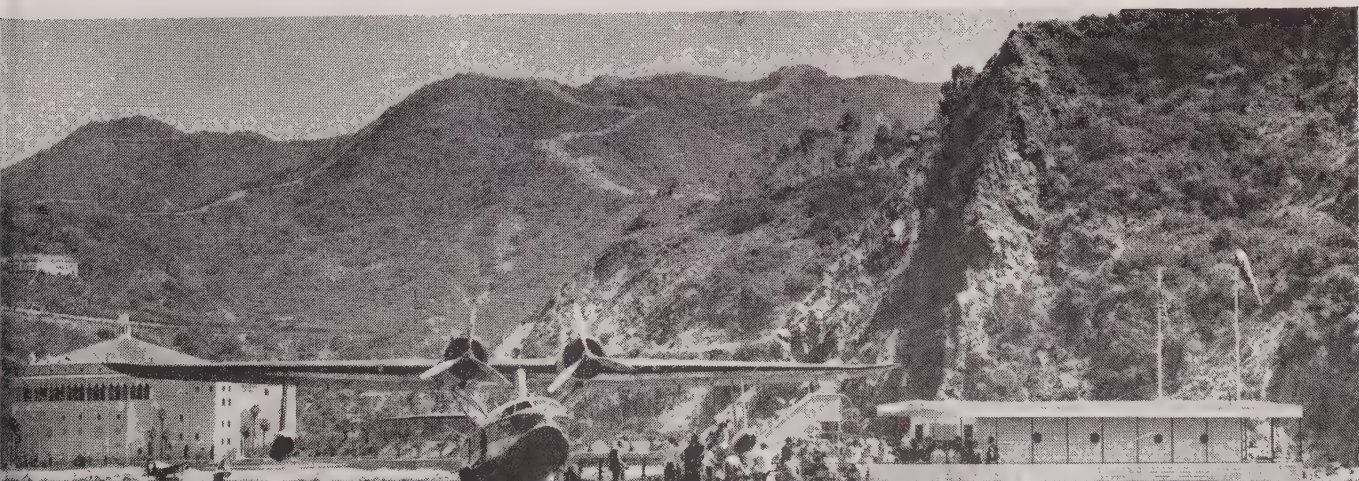


**CATALINA** seadrome is just few yards off shore. Speedboat ferries passengers from seadrome to downtown dock

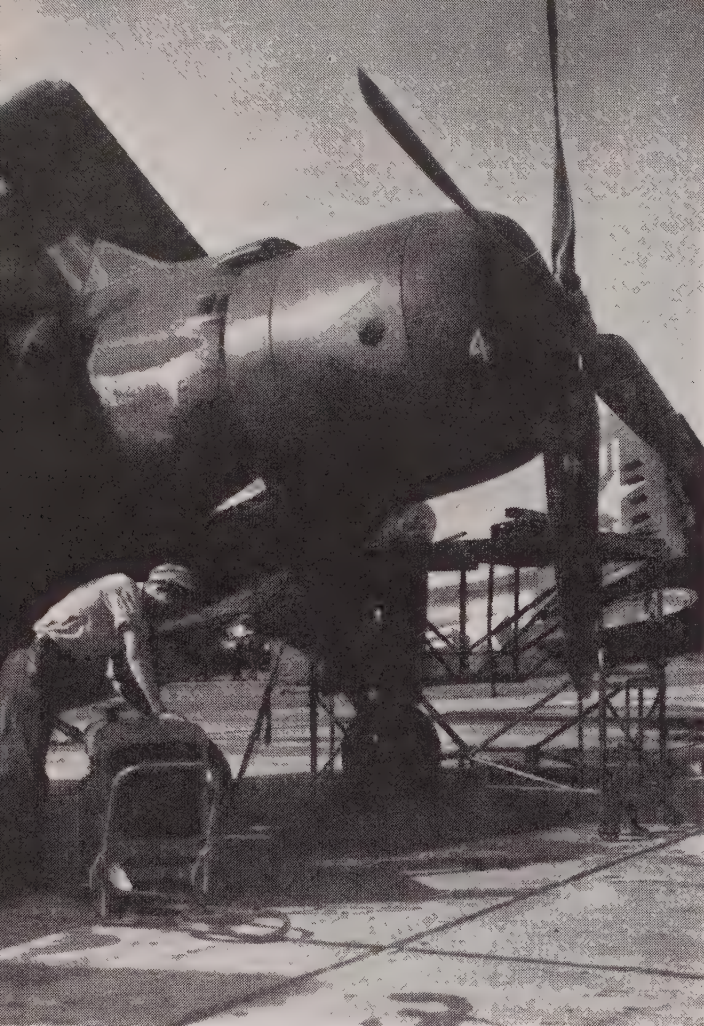


**MEN** in command of AAT are Chuck Hunsinger (left), vice president, and Ken Brown, president of Amphibian Air

**AMPHIBIANS** land in bay, taxi to seadrome and up a 30- by 45-foot ramp, and unload passengers. Note casino in background





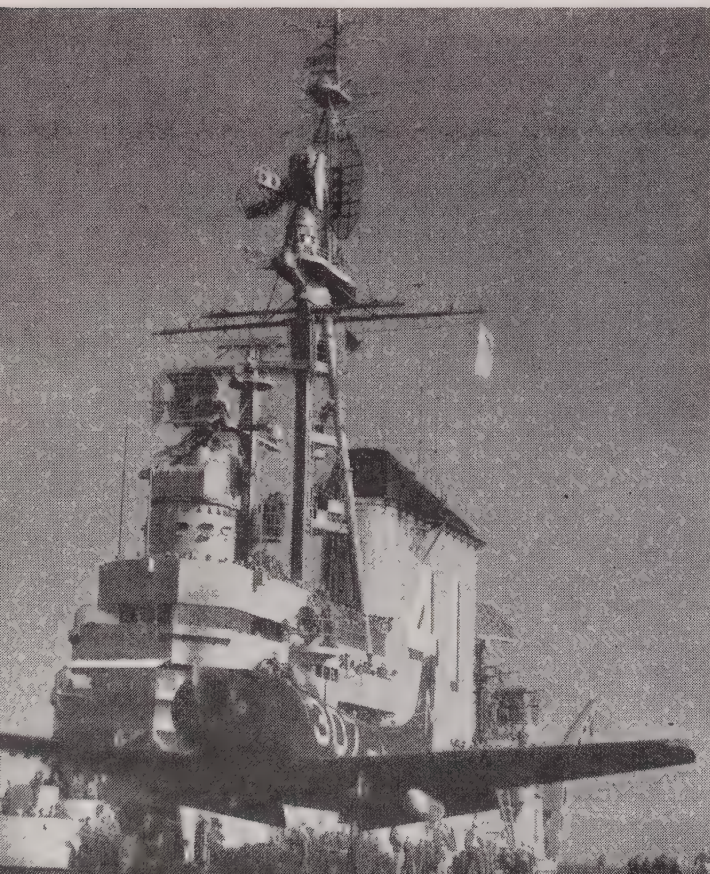


**DOUGLAS AD-1**, first of a series of Skyraiders (AD-1, -2, -3 and -4) for the Navy, was evolved in late days of the war. Today the AD-1 and -2 are operating with the fleet, and the AD-3 and -4 versions are on order and in production

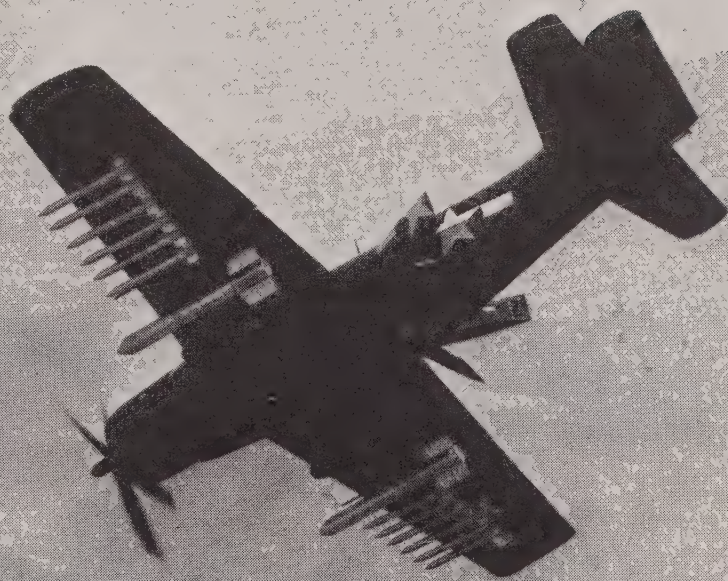
# Navy's Skyraider



**SKYRAIDERS** fly in "V" formation after taking off from deck of a carrier in maneuvers with the Pacific fleet







**DIVE BOMBER** with plenty of fire power, the Skyraider here is armed with rockets, Tiny Tims. Note dive brakes

**S**PECTACULAR is the only word for the sketches of the new CVA-58, the 65,000-ton super aircraft carrier which should be a full-sized Navy actuality equipped for action about 1953. Equally spectacular, in a more devastating display, is the precision bombing of attack squadrons operating off the Navy's three big battle carriers in service today.

## By JERRY LEICHTER

Sidetracked from notice in the shuffle over the future of Navy Air in the combined Air Force-Navy planning, with its emphasis on the strategic role of atomic bombardment, the tactical forces necessary for specialized operations—invasion spearheads, reduction of strong points and the blunting of counter-attacks—not only exist in force now, but even in the future will form the backbone of the Air Navy, no matter how it is eventually grouped.

The "battleship navy" may be almost extinct, but its broadside firepower, multiplied beyond belief in a smooth transition, is now mounted on the wings of fast, versatile carrier attack aircraft. Each attack plane carries a single explo-

sive punch more destructive than the guns of a light cruiser or, stated in another

similar way, on one attack type the firepower is equal to the explosive impact of 12 of a destroyer's biggest guns, plus two 12-inch battleship shells, with a further reserve of 20-mm. rapid fire cannon.

Thus, four years before any kind of strategic point can be demonstrated with a single 65,000-ton carrier, the Navy already has three CVB 45,000-tonners, the *Midway*, *Franklin D. Roosevelt* and the *Coral Sea*, spearheading naval task forces without peer.

To examine a microcosm of the Navy's assault forces, one might move down a typical line of command in a task force to, say, Carrier Division Four; its flagship, the U.S.S. *Midway* (CVB 41); the *Midway's* Air Group Two; and one of the three fighter and two attack squadrons making up this CVB air group, Attack Squadron 25 (VA 25). This attack squadron, in peacetime, has a normal complement of 20 pilot-officers and 120 enlisted personnel operating 20 Douglas AD





**ARTIST SKETCH** graphically portrays war-job of the AD's. In all there are 18 different versions of the Skyraider

*Skyraiders*, the attack-plane type generally assigned to air groups based aboard the three *Midway*-class carriers.

The AD-1 was one of the answers the Douglas Aircraft company evolved in the late days of the war to the question of how to combine the best features of dive bombing and torpedo planes while adding increased performance. Today the AD-1 and AD-2 are operating with the fleet, while later models, AD-3 and AD-4, are on order and in production. The Navy describes the *Skyraider* type as one "which will operate at high speeds carrying a heavy external load; dive, glide and toss bombs; torpedo, strafe and lay mines; and have enough of the speed and maneuvering characteristics of a fighter aircraft to defend itself on almost equal terms with fighters."

The *Skyraider* is a low-wing, single-engine, single-place dive bomber and torpedo plane with

**GROUP LSO** on board aircraft carrier *Midway* gives pilot of this *Skyraider* the "cut" signal for his deck landing



a wing span of 50 feet, 3/16 of an inch; a height of 15 feet, 10 inches, and a length of 39 feet, four and 7/8 inches. Powered by a Wright R-3350-24W, 2,500 horsepower engine (AD-192), mounting a four-bladed Aeroproducts propeller, the *Skyraider* weighs 10,513 pounds empty and carries a three-ton payload.

Performance figures are classified, but compared with the early wartime two-place Douglas *Dauntless* SBD dive bomber, which had half the gross weight of the *Skyraider*, the AD series is reported to have about a 50 per cent increase over the 230-mph top speed of the SBD. The AD takes off from a carrier deck with a normal load in less distance than the SBD; has about twice the maximum combat radius, and in bomb load and fire power a comparison with the SBD would be almost ridiculous.

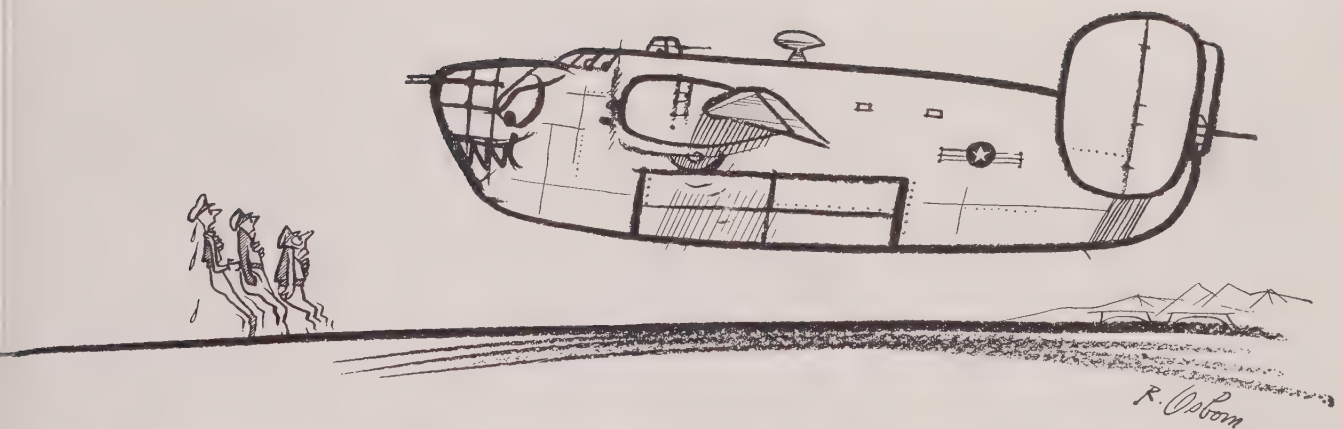
For extremely long-range flight, the *Skyraider*



**ORDNANCE MEN** of Attack Squadron 25 arm the mighty *Skyraider*. This photo was made during Operations Combine

can carry three 150-gallon drop tanks to supplement its single 350-gallon main tank, a full load of ammunition for its two 20-mm. guns and twelve 5-inch HVAR aircraft rockets on its outer wing racks which are also used for light bombs. For long-range flight, with its ammo load and a single 150-gallon drop tank on its center external rack, the plane can carry two 2,000-pound bombs or two 1,300-pound 11.75-inch "Tiny Tim" aircraft rockets. On short missions, the plane can carry two of the Tiny Tims and one 1,000-pound bomb, or two Tiny Tims and one 21-inch 2,000-pound aircraft torpedo with its 600-pound war-head, or three 1,000-pound bombs and 12 five-inch rockets, or three 2,000-pound bombs. The plane has a normal radius of action of about 750 miles. (Continued on page 63)





# Routine Miracles

By S. F. ROECA



PRACTICING one and two-engine landings in a B-24 is like trying to build up an immunity to cyanide. Or, what have you got after you've done it? That's what we kept telling the training command, but everytime we mentioned it they'd just cut out another engine. That was no way to treat eager beavers.

Ostensibly we were a class of second lieutenants, reporting into Albuquerque for transitional training in the majestic, long-range, high-altitude, Davis-winged Consolidated butterfly of the stratosphere. We called it that because none of us had liquor stains on his blouse yet. We were fresh from a rough-and-ready cadet course in the AT-17, a ship ingeniously fashioned of string and plywood and reinforced whenever the termites held hands.

Switching from that plane to the heavy bomber was like setting up controls in an elevator shaft where you couldn't hear your own echo. Our first grueling week was devoted to physical exercise, stress being placed on shoulder muscles and the dependable deltoids. The B-24 is picked up manually. All the picturesque roaring down runways and wagging rudders is sheer drama, an air force indulgence for the benefit of designing engineers and ground crewmen whose sense of usefulness must be preserved. Actually any two men need only get under the belly of the B-24 and lunge together. But for practical reasons the pilot and co-pilot learn to lift it from within. Once airborne, the ship becomes a wallowing phenomenon. Birds

take refuge and throughout the land small groups bow humbly.

Our class struggled with the damn thing for a week before admitting it was a bathtub with cowling and plumbers were responsible. We took off and landed. We did this over and over again and began to suspect we were performing for curious scientists. Then we entered the second phase and struggled to absolute ceiling (12,392 feet) for instrument practice on the radio range. That work was practical. All flying in the *Liberator* is by hunch and prayer since nobody at any time has any idea about location, flying attitude or security.

At the beginning of our third week we were supposed to commence the vaunted one; two; and three-engine landings. Our instructor was hopeful of getting sick, however, and stubbornly delayed such training. He told Pete, Chuck and me that we'd get enough practice in the course of normal operations anyway since the entire ship was an emergency.



"Check-ride jitters, an airman's occupational disease"



That was okay with us. We'd gather in the ready room after flying to watch other trainees stagger to their lockers. Perspiration flowed copiously in an atmosphere where deaths were a matter of prediction. Everybody else twitched and fretted. We were gay.

That is, until the morning Maj. Gurdy stuck his head in the doorway and barked our crew number. Maj. Gurdy was the check pilot with an outstanding record of more than 80 students eliminated. That morning he was scheduled to check three other students, but they had been conveniently grounded. The major would have dismissed all thoughts of flying had not some second lieutenant stolen his date the night before. It had occurred publicly in the Alvarado bar and he was still festering.

So that when we looked up with questioning innocence he pointed savagely. "Yeah, you three. Get your chutes."

Like children heading for the woodshed, we jockeyed for the hindmost position and filed out behind him.

Inside the cockpit the major took over. He got into the copilot's seat and buckled the safety belt. He began to crank things with bewildering familiarity and shouted instructions that were both confusing and meaningless. "You," he barked, pointing at me, "check the fornicists and wind 'er up to eighty."

"Yes sir!" I disappeared into the bomb bay and stood there five minutes, jumping up and down to control the action of my kidneys. Then I returned and stood far to the rear, against the compartment bulkhead.

Blustering orders through his side window, the major advanced throttles, released the brakes and our bathtub lurched as though someone had pulled an odd stopper. It was a Model D with two hundred missions, two thousand holes and two million hours.

At the runway he cocked around at a violent 45-degree angle and slammed on the brakes. He and the student pilot, Pete, wrenched me loose from between their seats, the major seeming to question my right to wear a uniform. He ran number one up to two thousand rpm's and then turned to all



"You three, get your 'chutes!"

ing them, as though naively dazzled. Chuck sneaked an arm forward and patted him on the shoulder, then looked at me and swallowed. We all felt busy.

Maj. Gurdy put on his earphones and said, "Call the tower."

Pete grappled with the mike cord for several seconds, then stammered something into the interphone.

"Do you think I'm the tower?" the major asked.

"No sir." Pete switched to broadcast and said: "Hello, tower, this is . . . this is a B-24 asking for take-off."

The major switched to interphone and turned calmly. "Lieutenant, are you definite about this now? Are you quite certain this is a B-24?"

"Yes sir. Consolidated. Model D."

"Very good. Now, dammit, call the tower like a pilot and get instructions."

Pete picked up the mike and called again. All of us waited a moment, then Pete turned to the

major. "There's no answer, sir."

"How in the hell do you expect to get an answer when you're on interphone?"

Pete switched again to broadcast and managed a nerve-wracking exchange of words: "Kirtland tower, this is 706 asking for take-off instructions."

"Seven-0-six, this is Kirtland tower. You're coming in about five. Give me a check."

Pete turned to the major. "He wants a check."

"Well, give it to him!"

"One, two, three, four, five, six, seven, eight, nine, ten," Pete blurted, took a breath and, "ten, nine, eight, seven . . ."

There was a ripping of cords and lines and some spluttering in the cockpit. The major took off his helmet and looked at all of us. (Continued on page 58)



"Pete grappled with mike cord for several seconds"



"B-24 is bathtub with wings"





**TEST** at Wright Field, using this new prone-position bed, proved Air Force pilots would find flying in this position much more comfortable



**FLYING** in prone position will require specially designed controls. Note pilot's head support

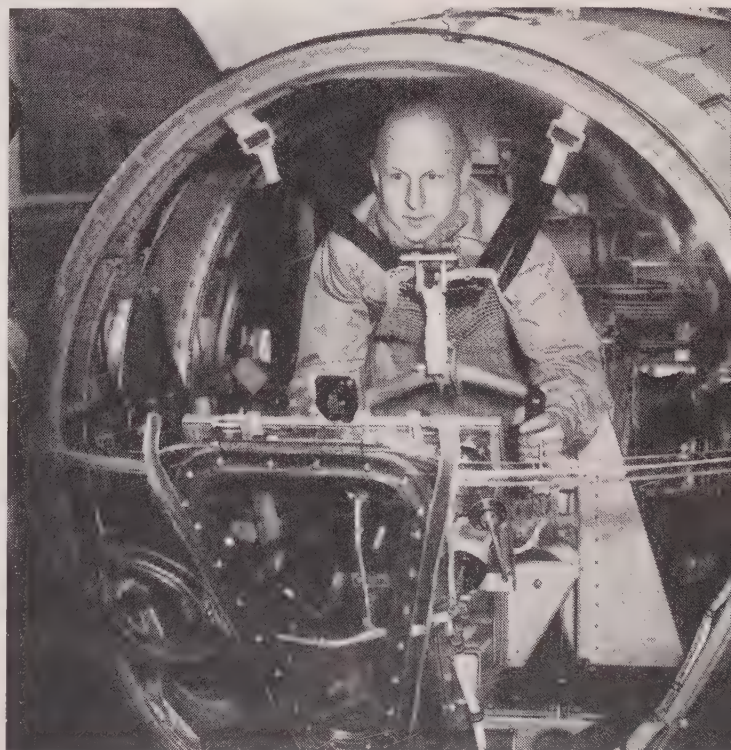
# PRONE PILOT

**T**O THE military pilot, flying fatigue and gravitational pull are a dangerous business. The USAF, however, seems to have the problem well in hand and those in the know maintain that such dangers will be pretty much eliminated soon. Latest development for easing the strain of "just sitting" and reducing the possibilities of blackout is a prone-position pilot bed designed by Aero-Medical Laboratory of Air Materiel Command, Wright Field, Dayton, Ohio.

Pilots who took part in tests of this equipment reported they experienced no discomfort from lying on the bed for as long as eight hours. During tests, pilots in the prone position withstood up to 12 g's for a given time without blackout. In similar tests it was found that a pilot sitting in normal position could withstand only 5 g's.

The bed is constructed so that it conforms as closely as possible the body contours of an average USAF pilot. There is an adjustable abdominal support, and the pilot's head is supported by an adjustable padded jaw rest. To date this prone position bed has not been made standard on any plane. For test purposes it is in a B-17. ✈

**PRONE BED** was tested in B-17, with equipment set up in nose. Next tests may be made in F-80



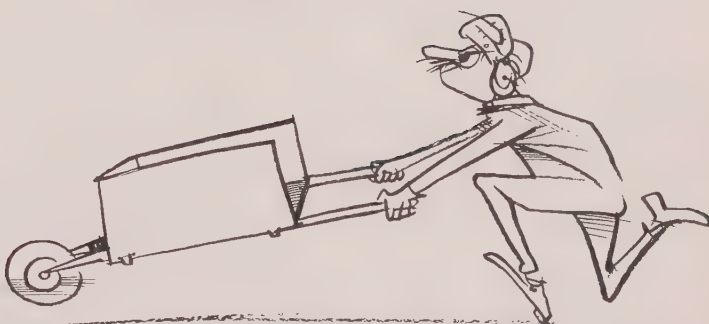
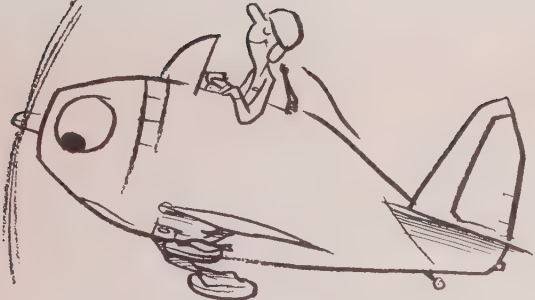




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Anything can happen when an "I-can-fly-anything" Dilbert takes over!





R. Osborn

# DILBERT

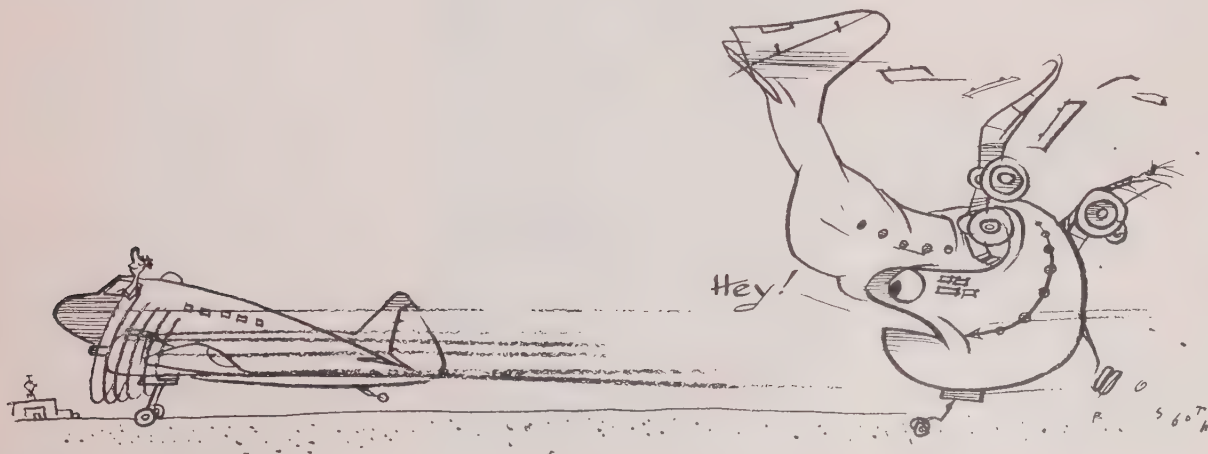
By Seth Warner and Robert C. Osborn

**THAT Wheels-up Bogy**—Everybody knows that wheels and flaps should not be lowered above certain airspeeds, depending on models. Everybody, that is, except Dilbert. Coming in for a landing the other day, he flicked the landing gear switch while at high speed. The wheels came down part way, but did not lock. Dilbert, of course, blithely came on in and made a belly flopper.

It's my guess that a considerable number of wheels-up landings occur because pilots do not follow a standard procedure for lowering and checking their landing gear. Wheels should be

lowered (never above limiting speeds) before entering the landing approach, and *before* the flaps are lowered. This sequence enables the pilot to *feel* the wheels lock down, helps reduce air-speed to the point where flaps can be lowered safely, and gives the pilot time to make a visual check of the landing gear indicators before entering the final stage of the landing approach. Be wise—systematize!

**Turn-up Clearance**—A twin-engine transport on X-C landed at a municipal airport for gas. The pilot parked (Continued on page 50)





# Operational Engineering

## Service Notes : Bonanza

**F**OR THE guidance of pilots, owners, operators and mechanics who fly, service or are otherwise interested in personal or executive aircraft, SKYWAYS has gathered together many helpful lubrication instructions, service facts and figures and maintenance tips on U. S. aircraft.

This information is presented to call to the attention of pilots and others many items that might be of assistance in general aircraft operation. *None of it is intended to supersede or replace any directions contained in official manuals or service bulletins issued by the manufacturers.*

Any problems concerning maintenance, service or operation of any Beech airplane should be submitted to the Engineering Service Division, Beech Aircraft Corporation, Wichita, Kansas.

### GROUND OPERATIONS— ROUTINE SERVICING.

**Propeller:** On airplanes before Serial No. D-551 that have not had Service Letter No. 18 complied with, the propeller should *not* be turned backwards because of a check valve in the bottom of the oil tank. When reversing the direction of travel of the propeller, the flow of oil is reversed and, being unable to flow back past the check valve into the tank, the hose connections will be forced apart. If the engine kicks back or is turned opposite to the normal direction of rotation, the oil lines and hoses should be inspected for security.

**Oil Tank:** A two and one-half gallon oil tank is located in the engine accessory section at the left side of the engine compartment. The oil-tank filler cap is accessible when the left engine cowl is raised. The oil-tank drain is located in the top of the nose-wheel well. When draining the tank also drain the engine pump; tighten and safety both plugs after draining. Beginning with airplane Serial No. D-1117 and after, the oil-tank drain is located at the bottom of the tank.

**Fuel Tanks:** Each wing has a bladder-type rubber tank with a capacity of 19.5 gallons. A grounding jack is provided above the leading edge of the wing in the fuselage to eliminate static electricity sparking during the filling operation. The wing-tank drain is located on the underside of each wing. Fuel vapor return line from the carburetor is connected to the left wing tank and returns approximately three gallons of fuel per hour.

**Fuel System:** Beginning with Airplane Serial No. D-1456, a modified fuel-unit selector valve and wobble pump has been installed in production airplanes. This unit is interchangeable with the unit used in

prior airplanes. This basic accessory also includes the fuel strainer.

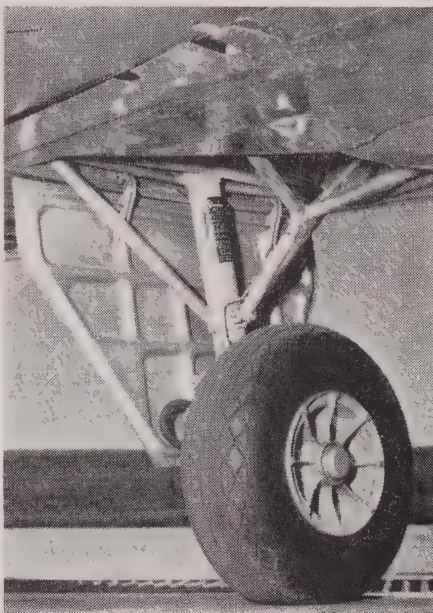
**Nose Wheel Shock Strut:** Inflation instructions (Airplanes Serial Nos. D-1 to D-1500 inclusive)—The nose-wheel shock strut should be inflated until 2 1/2 inches of the piston is exposed with the airplane resting on the landing gear wheels without jacks. D-1501 and subsequent—Strut inflated until 3 3/16 inches of the piston is exposed under same conditions.

Filling instructions (all numbers)—Turn filler plug slowly so all air will be out of strut before plug is removed. With the strut fully deflated, raise and block strut so it is 1/4-inch from the fully compressed position. Fill strut to the level of the filler plug with AN-VV-O-366 hydraulic fluid. Remove the block from the strut and allow excess oil to drain with strut fully compressed. Clean, install filler plug and inflate as above.

**Main Shock Struts:** Inflation instructions (Airplanes Serial Nos. D-1 to D-1500 inclusive)—The main gear shock struts should be inflated until 2 5/8 inches of the pistons are exposed with the airplane resting on the wheels without jacks. Rock airplane gently, as struts are inflated, to overcome strut packing friction. D-1501 and subsequent—Struts inflated until 3 9/32 inches of the pistons are exposed.

Filling instructions (all airplanes)—Turn

**MAIN GEAR,** not including wheel itself, has six points of lubrication on each shaft. Watch those 50- and 100-hour checks



the filler plug slowly so all air will be out of the strut before the plug is removed. With the strut deflated, raise and block strut 1/4-inch from the fully compressed position. Fill the strut with AN-VV-O-366 hydraulic fluid. Remove the block from the strut and install the filler plug. With the strut in the fully compressed position, inflate the strut to approximately 10 pounds of air pressure, but not enough to cause extension. Press the valve core in, which will drain the excess oil, then inflate to proper extension as above.

**Shimmy Dampener:** To check the reservoir fluid supply, insert a small wire approximately 1/32-inch in diameter into the aft end of the shimmy dampener piston rod. Mark the wire at the edge of the piston rod and remove the wire. If the wire goes into the shimmy dampener 3 1/16 inches or more, the dampener must be filled. Refer to Beech Maintenance Manual for filling instructions.

**Brake System Reservoir:** The brake-fluid reservoir is located at the top of the firewall in the engine accessory section and is accessible by raising the right side of the engine cowl. The reservoir should be filled to within 1 1/2 inches of the top and a visible fluid level should be maintained at all times. Fill with AN-VV-O-366 hydraulic fluid only.

**Tire inflation:** (Serial Nos. D-1 to D-1500 inclusive)—Inflate all landing gear tires to 28 pounds. D-1501 and subsequent—Inflate all tires to 3 pounds.

**Battery Servicing:** The battery is accessible when the right side of the engine cowl is raised, except in airplane D-1117 and subsequent. In those ships the battery has been relocated and placed behind the firewall on the right side, where it may be reached through an access door.

**Reading R-33 battery:**—The water level should be maintained between the top and 3/4-inch above the separators. Never fill above the baffle.

**Willard AW-12-25 battery:**—During filling, firmly depress the circle marked above each cell on the vent manifold. Fill each cell to the top of the filler-well opening, then release finger pressure on vent manifold circle. Liquid will drop to proper level above plates.

**Lubrication Instructions:** See chart and accompanying list of lubricants.

### POWERPLANT TIPS AND TOLERANCES

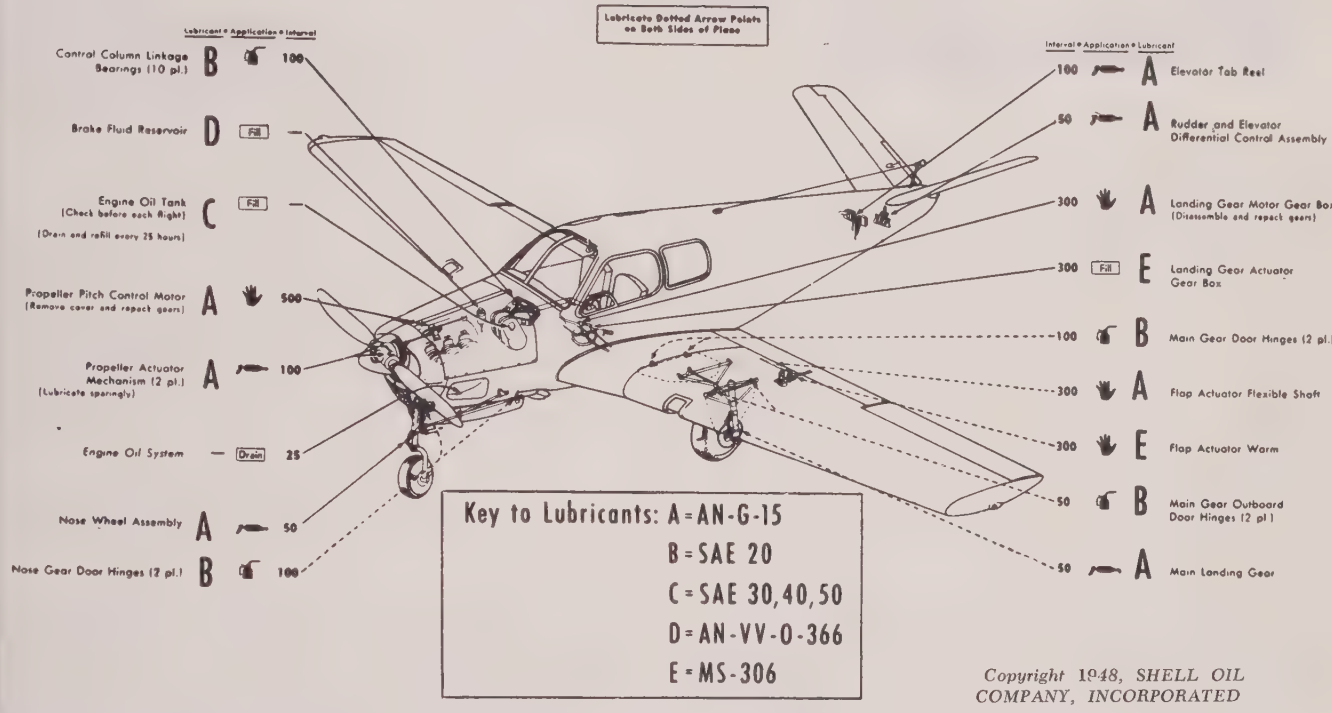
**Delco Remy #1109660 Starter:** When brush length is less than 3/8-inch, it should be replaced with a new brush. Do not use any abrasives to seat the brushes. If the armature is dirty, it may be cleaned with unleaded gasoline or other suitable solvent.

**Delco Remy 25 ampere #1101879 Generator:** If brushes measure less than 1/2-inch on the longest side, they must be replaced. Clean armature with unleaded gasoline or other suitable solvent. Do not use carbon tetrachloride since it will result in excessive brush wear and the corrosion of parts. Under any circumstances, do not apply an abrasive of any kind to the commutator.

**Ignition System:** Equipped with two Eisemann Model LA-6 or two Scintilla S6LN-21 magnetos. They are equipped



TANK CAPACITIES	INTERVAL	APPLICATION
Engine Oil—10 qt.	25—25 Hours	= Grease Gun
	50—50 Hours	
Fuel, Right—20 gal.	100—100 Hours	= Oil Can
Fuel, Left—20 gal.	300—300 Hours	
	500—500 Hours	= Hand



**CHART** shows points on Beech Bonanza requiring periodic lubrication. Careful maintenance insures profitable and safe flying

with impulse drives, to aid in starting the engine at low cranking speeds, which fire the engine at 25 degrees retarded. See Beech Maintenance Manual for breaker point adjustment, installation and timing instructions. The right magneto fires the top row of plugs in all cylinders and the left magneto fires the lower row. Spark plug installation torque is 300-360 inch-pounds.

**Carburetor:** Bendix Stromberg Model PS-5C which becomes the PS-5D if the automatic mixture control unit is installed. Engine should idle at 500 rpm with throttle closed. See Beech Manual.

**Oil and Fuel Pressures:** Oil pressure should be between 30 and 60 pounds at normal operating rpm, with a minimum allowable pressure of 30 pounds and a maximum allowable of 80. Fuel pressure should be maintained at 11 to 14 pounds with a minimum of nine pounds found only at idling. Pressure adjustments are made at the relief valve adjustment of the fuel pump.

#### FLIGHT CONTROLS—TENSION AND TRAVEL

Cable tensions are as follows (all tolerances are plus 5, minus 0):

Aileron (cable in cabin), Serial Nos. D-1 through D-1500—25 lbs.

Aileron (cable in wing), D-1 through D-1500—35 lbs.

Aileron cables, D-1501 and after—40 lbs.

Elevator—25 lbs.; elevator tab—10 lbs.

Rudder—25 lbs.

Control-surface travel limits are:

Aileron—20 degrees, plus or minus two degrees, up; same down.

Elevator—20 degrees, plus or minus two degrees, up; same down.

Elevator tab—10 degrees, plus or minus two degrees up; 30 degrees, plus or minus two degrees, down.

Rudder—21 degrees, plus or minus one degree up; same down.

Landing flaps travel—20 degrees, plus zero, minus one.

Aileron trim tabs—ground adjustable.

#### GENERAL—FACTS AND FIGURES

The throttle warning switch is intended to give warning when the manifold pressure is 12 inches Hg. and the airplane is 1,000 feet above the ground with the landing gear retracted.

The landing gear safety switch is installed on the right main shock strut and is actuated by the upper torque knee. It is intended to prevent the accidental retraction of the landing gear while the plane is on the ground. When correctly set the retraction circuit is held open by the switch until the shock strut is 3/4-inch from the fully extended position.

To prevent fuel-tank checking and cracking, a thin coating of light engine oil should be applied to the inter-liner of all serviceable fuel cells which have contained gasoline, if the cells will not contain fuel for more than 10 days and whether installed in the airplane or in storage. Tanks should be re-filled with fuel as soon as possible after flight.

If the Beech R203 propeller runs rough, check the pitch of the blades, track and

balance. Allowable pitch difference is 1/2-degrees; track difference, 1/8-inch. Pitch range is 16 degrees, from 11 degrees in low pitch (high rpm) to 27 degrees in high pitch (low rpm).

#### GENERAL CAUTION:

All repairs, adjustments and replacements that are other than routine must be made by or under the direction of a licensed A & E mechanic according to the CAR's. Consult the proper manuals and technical directives for full explanations of all servicing and maintenance. Observe the proper inspection routines and periods for best operation and flying satisfaction. The *Bonanza* is not hard to keep in excellent flying condition, and kept well, it is one of the best planes in the skies. ✈



**PROP** adjustment is a chore for an A & E mechanic. Lubrication, too, requires care



# CAOA REPORT . . .

## CORPORATION AIRCRAFT OWNERS ASSOCIATION, INC.

Corporation Aircraft Owners Association is a non-profit organization designed to promote the aviation interests of the member firms, to protect those interests from discriminating legislation by Federal, State or Municipal agencies, to enable corporation aircraft owners to be represented as a united front in all matters where organized action is necessary to bring about improvements in aircraft equipment and service, and to further the cause of safety and economy of operation. The CAO A headquarters are located at 444 Madison Avenue, New York 22, N. Y.

### Requirements for "Executive" Use Set . . .

The identification word "Executive" granted CAO A members by the CAA may now be used by members subject to the following restrictions as set down by the Association Technical Committee.

Under *Contact* flight regulations, the identification may be used by *any* CAO A member in good standing regardless of type of aircraft or equipment carried.

Under *Instrument* flight regulations, only such members whose aircraft and crews meet the following requirements are authorized to use the "Executive" designation in establishing tower or other radio contact:

- 1—Pilot shall have a Commercial rating or higher.
- 2—A co-pilot with at least a Private Pilot Rating.
- 3—An instrument rating to be held by the pilot.
- 4—Standard instrument flying devices including: Turn-and-Bank Indicator, Artificial Horizon, Sensitive Altimeter, Directional Gyro, and Air Speed Indicator.
- 5—Low-Frequency Transmitter.
- 6—Low-Frequency Receiver.
- 7—VHF Receiver.
- 8—VHF Transmitter.
- 9—Marker-Beacon Receiver.
- 10—Radio Compass or ADF Receiver

Such member aircraft as meet the above requirements may use the designation under all conditions. The word "Executive" is to be used as a suffix to the registration numbers or such part as is used as your normal radio call identification: "N567 'Executive' calling. . ."

These requirements were decided upon by the Technical Committee as a minimum for all instrument flying, not to impose any hardship but to assure that the new designation would be respected under all circumstances and conditions. As soon as members qualify for use of the identification under *all* conditions they may do so. Please notify your Secretary as to which of your aircraft have so qualified.

### Directory Now Restricted to CAO A . . .

The Directory of "Executive" aircraft, originally open to all operators of executive aircraft, whether members of CAO A or not, has been revised to include *only* members of the Association.

The rapid growth of the membership and the number of aircraft listed in the "CAOA Fleet" has made this change imperative. The directory, cross-indexed as to both registration number and the operator, is being prepared and will be distributed by the CAA for the Association as soon as completed.

The Directory will be used to facilitate ready identification of members of the CAO A and their aircraft when establishing radio contact with terminal towers and other radio contact points.

It is imperative that all Association members submit to the Secretary a complete and up-to-date list of all aircraft operated, their registration numbers, crews and their ratings and the information as to whether or not such aircraft is authorized to use the "Executive" designation under "contact only" or *all* conditions of flying. This information should be sent to National CAO A Headquarters.

### "Hearing Aid" for Pilots . . .

From now on it may be obsolete to wear that ear-clamping and hat-crushing head set. A new tiny receiver similar in size to the familiar "hearing aid," has been perfected and CAA-approved for aircraft-radio reception. Designed for either right or left "eared" pilots the tiny unit may be slipped into a vest pocket when not in use. It comes equipped with pull-apart



**FLY-TONE** eliminates the pilot's having to wear ear-clamping hat-crushing earphones

connecting link and standard radio-receiver plug, and permits reception on greatly reduced volume as the signals are directed directly into the ear. The other ear is left free for normal conversation. The Fly-Tone, as it is called, is manufactured by Air Markets Association of Dallas, Texas, or additional information may be obtained from Clinton Harrower, 228 St. Marks Place, St. George Staten Island 1, New York. Mention CAO A membership when writing for Fly-Tone data.

### New Cooperation With CAO A . . .

As a result of the very successful meeting with the staff of the Port of New York Authority earlier in the year, your Secretary has just been advised of the following new points of interest to CAO A.

Jeep service is available to all airports under the jurisdiction of the Authority (La Guardia, New York International Airport, Newark, and Teterboro). These jeeps are radio-equipped and can be directed from the tower to meet landing itinerant aircraft. Those not familiar with taxiways should request this "escort service" from the tower.

At La Guardia, Gate No. 8 has been designated for itinerant aircraft loading and unloading. Mr. Frederick H. Flagg, Operations Supervisor, may be contacted there for any assistance. Plans are being made for space for itinerant CAO A executive aircraft at the International Terminal (Idlewild) area at that field. Members will be advised regarding this soon.

At New York International Airport, the tower will assign members a gate. The Port Authority Operations Office is adjacent to the terminal and contact Mr. Roy Samuels for assistance.

At Newark Airport, Gate No. 1 has been designated for itinerant CAO A-type aircraft. Call the Port Authority Operations Office from Gate No. 1 phone. Mr. Andrew S. Champion, Operations Supervisor, will help members. Jeep escort service is available if you are unfamiliar with field.

At the suggestion of your Association, the Port of New York Authority will welcome members applications to establish credit for landing and take-off fees at airports under its control. All requests for this privilege should be in writing and addressed to Mr. David McKay, Treasurer, Port of New York Authority, 111 Eighth Avenue, New York 11, New York. These requests should contain not only the name of the concern owning the aircraft and the address where billing is to be rendered, but also the type and license number of the aircraft involved. To facilitate the processing of applications, it is suggested by the Authority that applicants include the name of their bank and a copy of their most recent financial statement.

Members of CAO A wishing to receive copies of the "Airport Users Bulletin," published by the Authority, which contains all new changes, regulations and other data, may do so by writing their request to Miss Lou Phillips, Airport Development Department at the same address.

The Association is grateful to the Port of New York Authority for its cooperation.

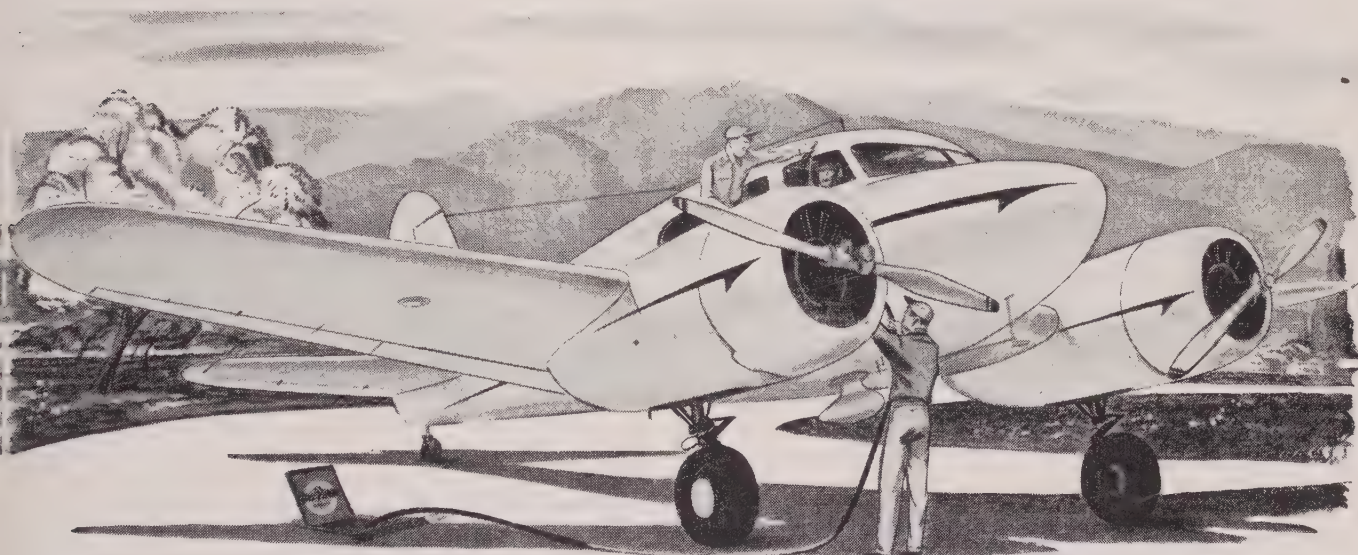
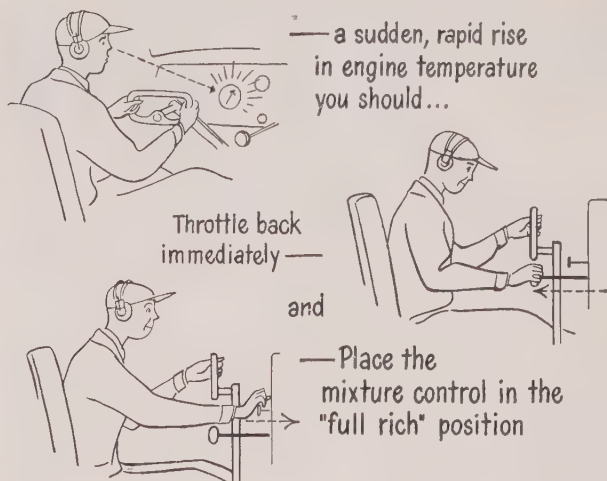


# PLANE FAX

## How to reduce pre-ignition

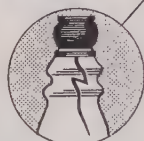
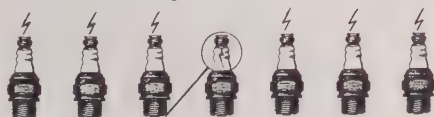
Low grade fuels encourage pre-ignition—and that often causes damaged pistons and engine failure. That's why it's so important to use only high octane Chevron Aviation Gasoline. This premium-quality fuel is scientifically blended for even combustion and peak performance under all flight conditions. That means fast starts, easy warm-up, extra power and dependable performance at every altitude.

### At the first symptom of pre-ignition—



### "Checked out" your spark plugs lately?

Be sure all spark plugs are functioning



One plug with a cracked insulator can cause pre-ignition

Let your Standard Airport Dealer help you select the right plug for your powerplant

*"We take better care of your plane"*

## Good spark plugs fight pre-ignition

Proof of a good spark plug is in its ability to operate at high engine output. Atlas Champion Aircraft Spark Plugs resist overheating which can result in pre-ignition and detonation. That's because they have a special insulating material, the finest known to ceramic science. Your Standard Airport Dealer can tell you the full story of Atlas Champions.







# C.A.P. News from Hq.

## Summer Encampments

**T**HIRTEEN states and Hawaii will hold summer encampments during June at U. S. Air Force bases throughout the United States and Hawaii as the annual trek of CAP cadets gets under way. The remaining 35 states, Alaska, and the District of Columbia will hold encampments during August, although as yet there is some doubt as to whether the Alaska Wing will hold a summer meeting in the form of a regular encampment.

To these encampments will go approximately 3,000 cadets selected from the CAP wings. Many additional cadets have applied for permission to attend the summer meetings (lasting on an average of two weeks each) but due to lack of funds and facilities, the number of cadets has been limited to about the 3,000 selected by the wings.

To be eligible for the encampment, a cadet must have completed a minimum of instruction and training in high schools or at his regular meetings with Civil Air Patrol senior members during the year. The opportunity of spending two weeks on a U. S. Air Force base, to take part in the daily life of the base, to participate in the activities of the base and to train with regular Air Force personnel, is one which appeals tremendously to air-minded young America.

While at the encampment there is ample time for recreation, but the schedule calls for instruction periods under the guidance of Air Force officers in flight operations, aircraft maintenance, supply administration and various other activities to supplement their regular CAP and school training.

Encampment periods for June are:

Texas—Goodfellow AFB, San Angelo, Tex., 5-18 June.

North Carolina—Orlando AFB, Orlando, Florida, 5-18 June.

Georgia—Orlando AFB, Orlando, Florida, 6-19 June.

Arizona—Williams AFB, Chandler, Arizona, 6-19 June.

Hawaii—Hickam AFB, Hawaii, 11-24 June.

Colorado—Lowry AFB, Denver, Colorado, 12-25 June.

Montana—Lowry AFB, Denver, Colorado, 12-26 June.

Utah—Hill AFB, Ogden, Utah, 19 June-2 July.

Idaho—Hill AFB, Ogden, Utah, 19 June-2 July.

Illinois—Chanute AFB, Rantoul, Ill., 19 June-2 July.

Wisconsin—Chanute AFB, Rantoul, Ill., 19 June-2 July.

The other 38 states and the District of Columbia will hold their encampments during July or August.

**Air Force Reserve Aid For CAP**—The new Air Force Reserve Training Program, in a marked departure from previous programs, provides new opportunities for Air Force reservists in the field to serve with Civil Air Patrol units as instructors and assistants in return for which they will receive credits on their reserve status for time involved in assisting CAP units.

Because of the concentration of AF Reserve training in large population centers, reservists living outside such areas who do not have ready access to the organized reserve groups, are urged to contact Civil Air Patrol units and volunteer their services for which credit will duly be given on their reserve status. These credits will count toward promotion and retirement benefits.

**New Mexico Gets \$5,000 Annually**—New Mexico again has shown the way to many other wings of Civil Air Patrol—this time by taking the bit in its teeth and proposing legislation which has been passed by unanimous consent of the New Mexico Legislature granting the wing a \$5,000 annual subsidy and other legal considerations within the state's boundaries.

The measure, officially listed as Legislative House Bill No. 169, was passed and signed into official life this spring. The Bill creates a department of Civil Air Patrol of the State of New Mexico. Dis-

bursement will be under direction of Wing Commander Lt. Col. Kilbourne L. House.

**Fatality Points to Error Again**—A search mission recently completed by the Yakima Squadron of the Washington Wing, Civil Air Patrol, auxiliary arm of the U. S. Air Force, underlines the importance of standard safety rules when aircraft are forced to land in mountainous terrain.

Henry T. Deason, 23-year-old private pilot of Yakima, took off on a flight and was reported overdue late in the day. Search squadrons by Jeep overland, and by CAP and other pilots from the air, located the crashed plane against the side of a mountain at about 4,000 feet above sea level. The search area had been plotted into 8x15 mile sections and the patterns were crossed and re-crossed with fresh crews until the aircraft was sighted.

A helicopter crew, complete with doctor and medical supplies, quickly reached the scene of the accident and found that the pilot had extricated himself from the plane and made his way down a hillside heavily drifted with snow. His body was discovered within a short distance of the wreck by Jeep crews from CAP.

Once again the advice of the experts was ignored only to end in tragedy, for although Deason had received several head injuries and a broken ankle, none of his injuries would necessarily have proved fatal had he stayed with his aircraft.

**Dog Drop By CAP**—In the Plains States last winter some of the most spectacular of all the tasks ever performed by Civil Air Patrol members were completed under conditions little short of actual combat hazards. Even after the recurring blizzards had left the Plains States exhausted and impoverished in many cases by the devastation of the storms, the coyotes and the wolves emboldened by hunger and the scarcity of men hunting them, were making nightly raids on sheep and cattle. Scores of dogs, similar to "Cap" here, were dropped by a Civil Air Patrol unit to sheepherders in Utah. Needless to say, the Utah herders welcomed the dogs delivered to them by the Civil Air Patrol. ✈



**CIVIL AIR PATROL** dropped dogs to sheepherders in Utah to help protect sheep from coyote and wolf raids. Here, three CAP-ers fasten a drop harness on "Cap"



# Bonanza Bill

(Continued from page 16)

version of the four-engine B-24. Last year, as chief pilot for the non-scheduled airline, World Airways, Odom flew surplus Boeing *Clippers*, four-engine flying boats, between New York and Puerto Rico, and was momentarily in the news when he worked one of the old timers safely off a mud flat following an emergency landing in Chesapeake Bay. Bill's log book records 8,500 hours of piloting all types of aircraft.

His big-plane experience doesn't stop him, however, from calling the *Bonanza* "the most perfect airplane I ever flew."

Nor does he disagree when a factory representative notes that his flight in the "Waikiki Beech" proves the "indisputable dependability" of the product.

Odom has no illusions, on the other hand, that his Honolulu-Teterboro flight means that any business man can normally make such a hop.

"Hundreds of guys worked their hearts out for this trip," he says, "people whose combined energies would never have been available except for such a record-smashing attempt."

And, indeed, Bill tells the story of an elderly woman flying with him once who wasn't impressed by his claims that his own personal plane, also a *Bonanza*, was equipped for 1,200 miles of steady flying.

"Your plane may be equipped for it, son," her retort was, "but I'm not."

They made a rest stop at the next airport.

Odom does figure, nonetheless, that if he can solo all the way from Honolulu to Syd Nesbitt's bailiwick at Teterboro, even considering the advance preparations, a business man is going to realize that it won't be too much of a task for him to use the same type of plane to cover, say, a mere 500 miles.

Stretched out lazily in an easy chair in the living room of his hotel suite, Odom filled in for this reporter all the detailed technical background of the trip which he thought might be of interest to SKYWAYS' readers.

It was soon clear that the trip was, above all, a victory for careful planning and ingenuity.

Take, for instance the case of the frosted wing-tip tanks. Devotees of the mint julep will love this one. So will anybody else who never knew that when you cool gasoline down from 80 degrees to 20 degrees Fahrenheit, you reduce its bulk 4 per cent.

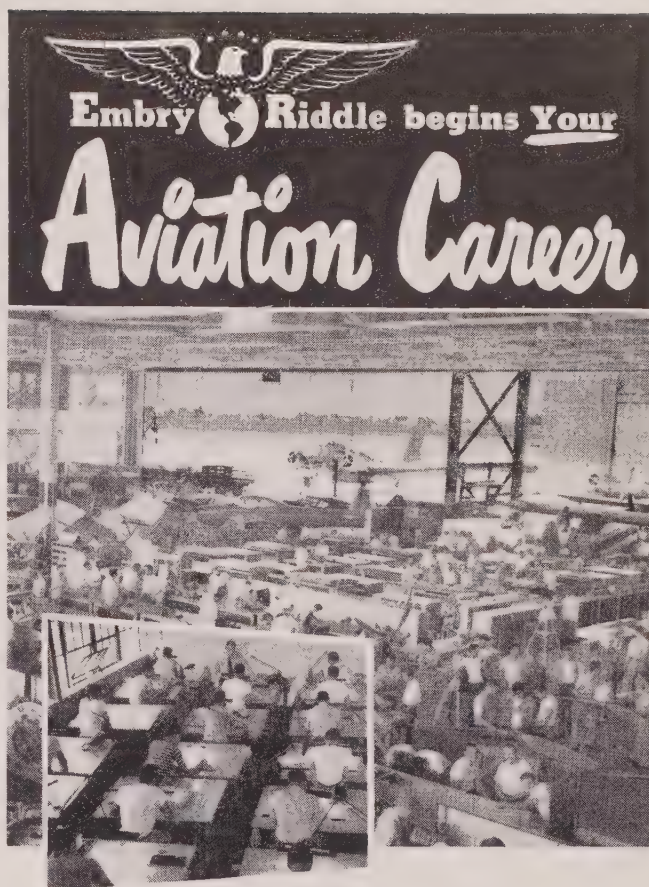
Seems Odom knew this, and before taking off, he got Shell Oil in Honolulu to stand a pipe filled with dry ice in one of its tank trucks until the gas was 12 degrees below freezing. When the plane was gassed, just before take off, the result was greater poundage of gasoline "squeezed" inside the *Bonanza's* tanks—and a coating of frost on their exteriors as Odom took off from tropical Hawaii. (When the temperature of gasoline is reduced, as in this case from 85 to 20 or 22 degrees, the weight of the fuel increases. Therefore, in the case of the "Waikiki Beech," the 288 gallons of fuel that was carried amounted to the poundage of 300 gallons of gasoline even though, actually, only 288 gallons of fuel were in the tanks. An aircraft engine burns gasoline by the pound, thus 288 gallons of "chilled" gasoline gave the Continental engine the "nourishment" it would ordinarily get from 300 gallons at normal temperature. This "freezing" of gasoline was a trick devised by Shell Oil Co.—Ed.)

Bill landed at Teterboro 36 hours later with exactly 22 gallons, 3 quarts, and one ounce of fuel left sloshing around in the *Bonanza's* tanks, practically the margin he gained from this one cooling device.

Then there was the noted meteorologist, Dr. Irving Krick of the California Institute of Technology, who tipped Odom off to the "pressure pattern" trough across the Pacific Ocean, the development of which determined his take-off time.

"Pressure pattern" navigation means flying the isobars surrounding high and low pressure zones. Krick waited until the route between Honolulu and San Francisco was pinched between a low pressure zone to the North and a high pressure zone to the South. Then, from his Pasadena, California, office, he phoned Odom in Hawaii. "Tonight's the night," Dr. Krick reported.

Flying eastward, between the two (Continued on page 46)



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**TRAIN IN MIAMI -- AIR CAPITAL OF THE WORLD**



# Bonanza Bill

(Continued from page 45)

pressure zones, the little Beechcraft got a boost both from the clockwise winds around the high to the south, and the counter-clockwise winds around the low to the North. It meant an average 13-mph tail wind.

Beside the careful study these innovations in lightplane flying meant, Odom fortunately could rely on the experience gained from his first try at the record. He had, of course, already broken the lightplane distance record on his January 12-13 first attempt at the Honolulu-New York distance. He was turned back then, after more than eight hours on instruments, by extremely bad weather. He landed at Oakland, California, 2,407 miles from his start. (The previous record for lightplanes was held by two Russian pilots who, in 1937, had flown 2,062 miles from Moscow to Krasnoyarsk, Russia, in a 100-hp Moskalov M-11 airplane.)

The first flight sold Odom on making some changes. Most important switch was to trade in his Link octant and a set of H.O. 218 celestial navigation books for a Sperry gyrosyn compass.

On the first trip, Odom carried a chart table and hung the octant from a cross bar over head. On his way across the ocean he worked out two star fixes, and worked two more fixes from sun lines crossed with radio bearings. He figured these were good to within 30 miles.

However, his radio bearings proved to be so good on the first trip that he decided he'd toss out the celestial equipment and concentrate on radio for the second try. Beech had built him a special lightweight CW radio transmitter and receiver for that first record try, and he used that set for the second trip, too. Having been a "Ham" during his high school days, Odom had no trouble with the code that "Carrier Wave" transmission requires. CW outranges by far normal voice transmission, and Odom also observed that, in eliminating the weight of the voice modulation system, he also eliminated the weightiest part of the normal aircraft radio.

The CW set the factory had fixed him

up with was contained in two boxes, 10 inches by eight by six. It put out 45 watts on 6570 Kcs feeding to the trailing antenna. It enabled Odom to get long-distance radio bearings easily, and it complemented the work of the standard Lear ADF and Lear VHF voice set that the "Waikiki Beech" carried.

Then he added a gyrosyn compass which was "an immense help," as Odom put it, because of its ability to hold a heading right on the nose. Past experience had led Bill to expect at least a 10-degree error when using the standard compass, even in conjunction with a directional gyro, but there was no such error with the gyrosyn.

The first trip also proved Bill could lighten his load further by cutting his oil supply from 48 to 17 quarts (he actually burned six quarts), by leaving behind the "Gibson Girl" emergency SOS radio gear, and great boxes of Hawaiian souvenirs.

One item he did not sacrifice, however, was the emergency equipment which included a one-man life raft and a sizable stock of emergency rations.

Odom also added an accelerometer, and increased the size of his cabin and wing-tip tanks so that his total gas load went from 260 gallons to 288.

Besides these between-flight changes, the trip actually began weeks before the first hop. During this time, Odom spent many hours at the Beech factory in Wichita, and at the Continental engine factory in Muskegon, Mich. He actually watched the part-by-part assembly of the engine which carried him through the two trips. At Wichita he supervised the engine installation and a check-up of the air frame of the "Waikiki Beech." The air frame, except for a new set of production wings installed in 1947, was one of the first four *Bonanzas* built. It was a plane the factory had deliberately tried to wear out in upwards of 3,000 hours of test flying.

The wing-tip tanks also were built at Wichita under Odom's supervision. They were designed to be secured to the wings with the same bolts that hold on the wing-tip fairing panels. The installation included a hand wobble pump which worked at the agonizingly slow rate of 60 gallons an hour. This meant Bill was on the wobble pump for two hours and 15

minutes in transferring gas from the wing-tip tanks to the main tanks. A cabin tank holding 126 gallons was installed in place of the rear seats. This gave the plane a gas capacity of 288 gallons. The extra 12 gallons of gas from the freeze process was "squeezed in" to give Odom the equivalent, in pounds, of 300 gallons of 80 octane fuel for the trip. Odom's procedure was to use half of the gas out of the cabin tank, then wobble gas out of the wing-tip tanks back into the cabin.

The wing-tip tanks, Odom figures, slowed him up about 8 mph. They were installed so as to be level at cruising attitude, and in flight, Odom says, they actually helped eliminate wing-tip vortex. When full, they made the Beech a little unstable in roll, but did increase the plane's directional stability.

Also installed at Wichita was a special visual stick-type oil quantity gauge. Even this had to be flight tested. Odom stayed away from new gadgets, no matter how interesting they looked—and Odom loves gadgets—unless they were needed, and unless their bugs had been thoroughly worked out.

At Wichita also were worked out the performance charts which were Odom's Bible for the whole trip. These charts showed recommended manifold pressure and RPM settings for all probable gross weight loadings, and were correlated with True Air Speed and altitude.

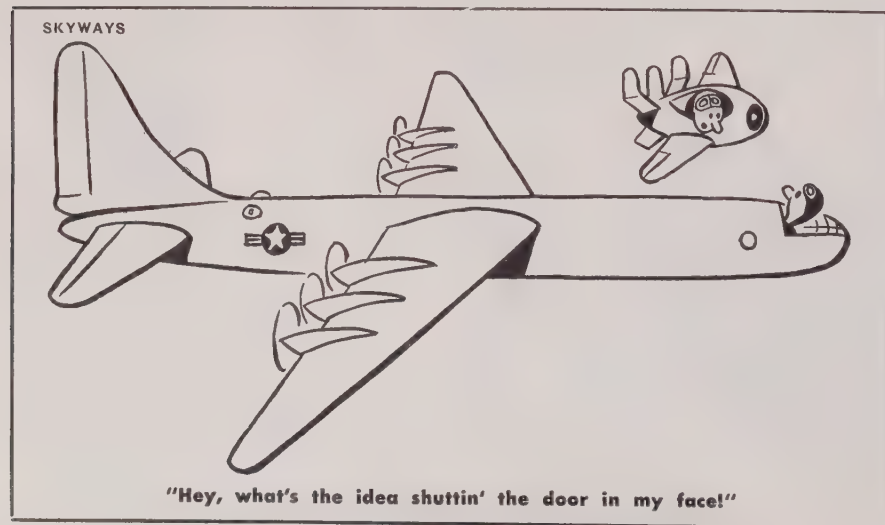
These charts were developed by flowmeter readings during test hops, and were translated into an actual pre-computed log for the entire flight. It was these flowmeter tests that enabled Odom to squeeze every ounce of efficiency out of the gas he carried.

Anyone who talks with Odom instantly senses the guy's in love with flying. He'll stop any conversation or anything else he's doing to talk shop. Right now, his current interest is in these performance tables which he insists should be made available to all pilots and for all planes.

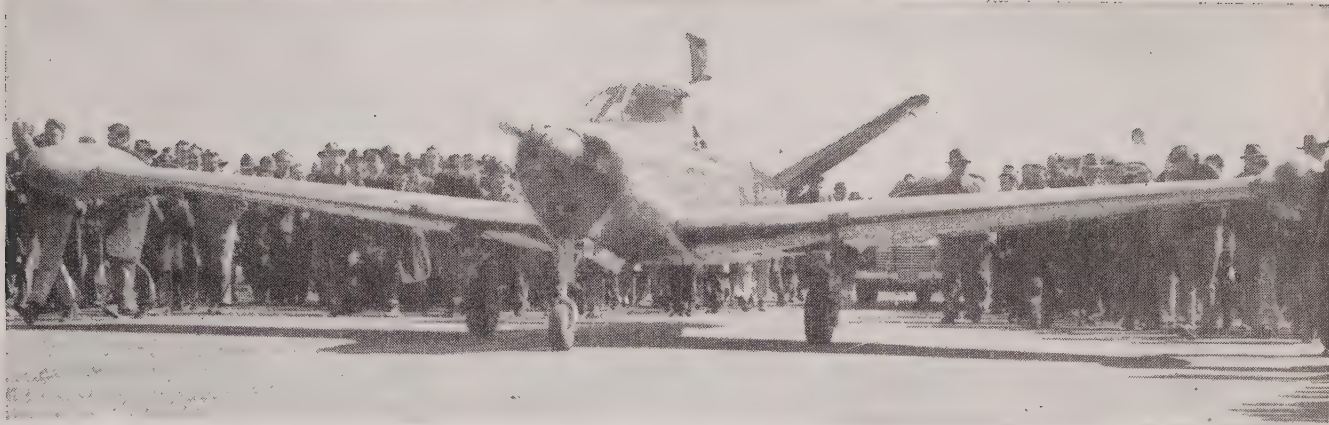
Also at Wichita, before the second trip, the "Waikiki Beech's" 185-hp Continental received a 100-hour check. Total time on the six-cylinder engine was 85 hours prior to the second flight, and the 100 check was all that Odom figured was necessary. One extra cylinder-head temperature gauge was installed, besides the one which is standard. This was done so that Odom could keep close tabs over his engine temperature when he leaned out the mixture for maximum economy.

On the trip, Odom leaned out until the cylinder-head temperatures rose and then started to fall off again, indicating a loss of power. The mixture setting just before this drop gives maximum engine fuel efficiency (tip to *Bonanza* owners—that's seven notches out on your mixture control). Odom remarked after the flight, however, that he doesn't exactly advise this maximum leaning out as standard practice, because of possible valve warping from the excessive high temperatures. The valves were the first thing he had checked before flying the "Waikiki Beech" again, and that check showed that the sturdy Continental engine had not been injured in any way.

Also at Wichita, a "pilot relief tube" (Continued on page 48)







## NEW WORLD DISTANCE RECORD

FOR LIGHT PLANES

SET BY

# CAPTAIN BILL ODOM

AND HIS

# BEECHCRAFT BONANZA

MARCH 7-8, 1949

**HONOLULU — Non-Stop To — TETERBORO**

**4957.24 MILES**

OFFICIALLY ACCREDITED GREAT CIRCLE DISTANCE

DISTANCE ACTUALLY FLOWN . . . . . 5273 Miles  
(Over water, 2474 miles --- Over land, 2799 miles.)

TIME EN ROUTE . . . . . 36 Hrs., 2 Min.

TAKE-OFF WEIGHT . . . . . 3858 Lbs.

GAS: Carried . . . . . 288 Gals.

Used . . . . . 272.25 Gals.

Remaining . . . . . 15.75 Gals.

OIL: Carried . . . . . 7.5 Gals.

Used . . . . . 1.5 Gals.

Remaining . . . . . 6.0 Gals.

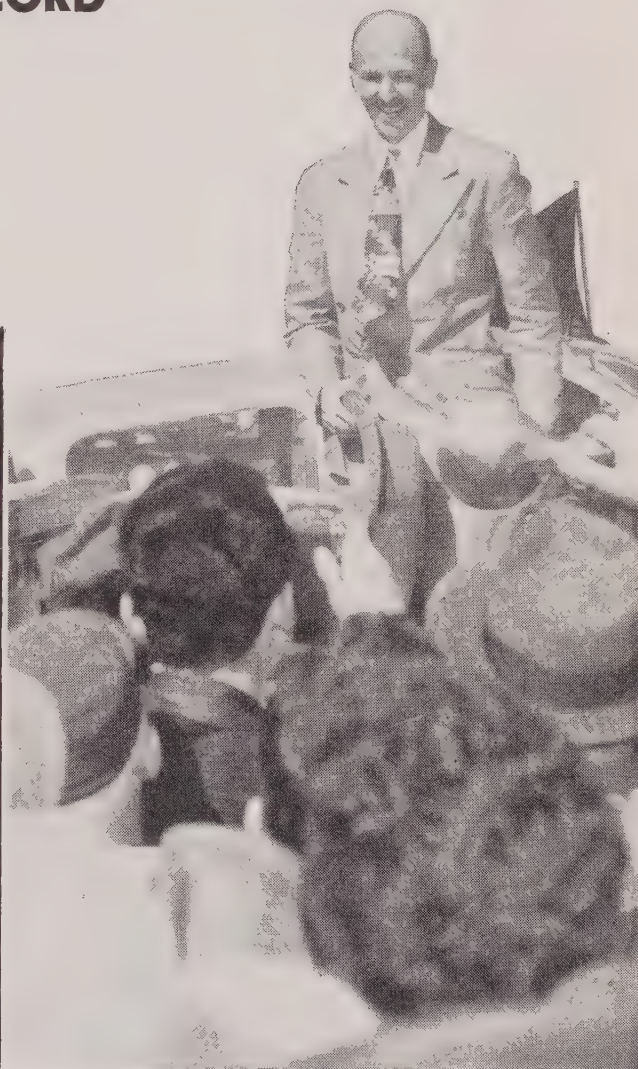
EXTRA DISTANCE POSSIBLE ON FUEL UNUSED . . 372 Miles

AVERAGE GROUND SPEED, distance flown . . 146.3 MPH

AVERAGE MILES PER GALLON, distance flown . 19.37 MPG

AVERAGE GALLONS PER HOUR . . . . . 7.56 GPH

TOTAL COST OF GAS AND OIL . . . . . \$75.00



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# Bonanza Bill

(Continued from page 46)

was lifted from a surplus plane and installed in the ship. Also carried were heavily waxed disposal bags, familiar to all Air Force and Navy long-distance crews. They were unused, however.

Odom left Wichita Monday, February 28, and flew the plane to San Francisco. There the "Waikiki Beech" was disassembled, crated and hauled aboard a Pan American cargo plane. With Odom and his mechanic, Bill Sampson, aboard, the Pan American flight left Thursday night, March 3rd. He arrived at Honolulu at 9:30 the next morning, and the "Waikiki Beech" was reassembled by that afternoon, Friday.

With the ship in the hands of Sampson, Odom settled down to a "nice long wait." He likes to get in at least four nights of good heavy sleep (8:30 P. M. to 8:30 A. M.) before such a flight. That very first day, however, word came from Krick alerting Odom for departure on Sunday, March 6th, less than two days away.

Bill put in two good nights of 8:30 to 8:30 sleeping, and then on Sunday, he slept from noon until 4 P. M. Three hours later, at 7:05 P. M., Honolulu time, he was airborne. Meanwhile his gas had been cooled and the plane officially weighed in (minus the pilot and emergency equipment) at 3,775 pounds, 1,728 pounds of which was gas.

After getting off the ground, Bill climbed to 5,000 feet at 106 mph on his cabin tanks. Then he switched to the main tanks and bled off enough to allow for expansion of the cooled gas as it warmed up. Finally, he began transferring the wing-tip gas into the main tanks.

For six hours after take-off, he maintained 5,000 feet. His settings were 1850 rpms and 21.2 inches of manifold pressure. This gave him an IAS of 124 mph.

Odom's performance charts called for a constant True Air Speed of 132 mph on the entire trip so, after six hours, as the plane lightened he began to build up to an altitude of 8,000 feet.

During this time, he was in constant communication by VHF with his B-17 escort which stood by him for the first 900 miles, flying flaps down and, according to Odom, "really sashaying around" to stay with him. The B-17 was a standard ship. Another *Fortress*, equipped with a rescue life boat slung to its belly, stood by in Hawaii.

He and the B-17 stayed so close through the night that they both identified the same up and down drafts in their conversation on VHF. On the entire over-water flight, Odom had about an hour on instruments. He departed from Oahu Island on dead reckoning gyrosyn headings, and 850 miles out began picking up CW radio bearings from "Red Head Fox," the Coast Guard radio ship 1,100 miles out from the island.

Odom's dead reckoning was so good that the B-17 navigator congratulated him. This encouragement, however, was the only thing that perturbed Odom during the flight.

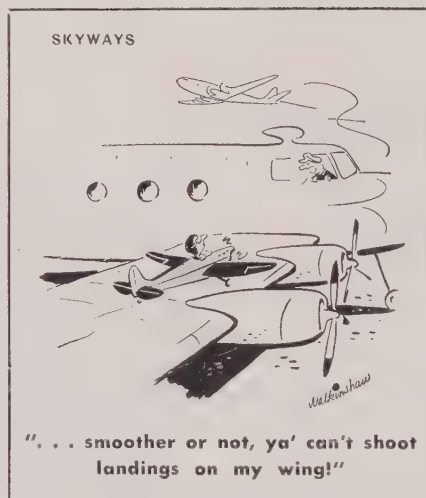
"The kids in that plane were only 22 years old," he says, "and I'm only 29. But they were telling me, 'You're stayin' in

pretty good for an old man.'"

Odom was using a Dalton Mark 7 computer, although he doesn't particularly prefer it to any other make. "It just happened to be around," he said.

The B-17 was navigating with Loran and passed its fixes on to Odom. After it turned back, 900 miles out, Odom relied on dead reckoning and radio bearings completely. Every Navy ship between the islands and the West Coast had been alerted to stand by and give bearings on 6570 kcs. Odom asked for one Navy bearing during this time, and otherwise used "Red Head Fox," the little radio ship riding the waves at 30 degrees North and 140 degrees West, and FCC Direction Finding Stations at San Diego, San Francisco, and Seattle. He used the CW set to contact a station and ask for a bearing. Then he sent "MO's" (continuous stream of dashes) to enable the station to swing its directional antenna on him. Following this, he would stand by for the bearing to be CW'd (code) back to him.

All these bearings he got, of course, by CW, and it was this momentary return to the "Ham" days of his high school career that actually gave Odom the biggest kick



of the trip. Beyond the radio ship, Odom began tuning in on KGO, powerful San Francisco commercial station, and homed on it with his ADF. This was in addition to his CW. He says the soap operas of regular radio helped keep him awake.

One of the Navy ships en route was an aircraft carrier, and Odom almost wished for an emergency, he said, so he could make a landing aboard. No other civilian has ever done it, he added wistfully. Neither has he ever been checked out for carrier landings. But that doesn't matter. Bill figured he'd make out all right, and he probably would. Typically, he had cleared such a possibility with the Navy in Honolulu before taking off.

In any other case of over-water emergency, Odom planned to ditch the plane if at all possible. The wing-tip tanks had dump valves designed to empty the tanks in 60 seconds, he pointed out, and with the help of them, Bill figured the plane would stay afloat.

He would ditch even at night, he had decided, if an escort plane was covering him and could drop a flare. Under rough sea conditions, or no flares, however, he

was ready to bail out with his 24-foot chest pack and a bundle of survival gear.

The morning following take-off, he made radio contact with a Coast Guard PBM coming out from San Francisco to meet him. By this time Odom was back at 5,000 feet under an overcast at 6,000. The PBM was on top, and to effect a rendezvous, Odom suggested that the flying boat circle and send signals he could pick up on his ADF. When his ADF needle started to whirl, Odom told the big plane to let down. When it broke through, the two planes were in visual contact with one another. A neat trick, believe me, and this was about 450 miles off the California coast. The Golden Gate bridge slipped beneath the wings of Odom's *Bonanza* at exactly 1:51 P. M. PCT (4:51 EST) on March 7.

From San Francisco on, Odom was plagued with his old bugaboo—weather in the mountains. Because of "severe icing conditions" he was directed north to Oregon where he immediately ran into more "severe icing conditions."

He climbed to 16,000 feet to try to get over the weather, couldn't, and decided to duck inside the stuff at 13,000. By this time he was using oxygen. From late that afternoon until beyond Scottsbluff, Nebraska, at midnight, he was on instruments 75 per cent of the time.

Odom's instrument flying was all by hand, he had no automatic pilot. He says, however, that the *Bonanza* trimmed up neatly, and he was able to fly hands-off most of the time.

In the soup, he began taking on ice, and remembering that it was the same kind of weather that had stopped short his first effort, he had a "terrible anxiety," as he put it, that the same thing would happen this time. He wasn't worried about the ice particularly, as it was light and not building up. Too, if it began to get heavy, he could always lose altitude and melt it off. But it *could* slow him up, and if he had to keep going down, he'd eventually have to land and throw in the sponge. Bill realized this was the only thing between him and New Jersey and the successful completion of his trip.

Finally, over Scottsbluff, he broke out of it. But the detour and the ice load had cost him about 23 gallons of fuel.

As dawn of the second day came up, Odom was a tired boy. His long vigil was having its effects. He told the CAA at Omaha, "I've never had to fight sleep like I have this time."

During all this time, he had not dozed off even for a moment. His routine was a continual grind of making radio contacts, keying the CW transmitter, translating code, flying blind, checking tanks, working the wobble pump, watching instruments, navigating and fighting off sleep. He used no drugs to stay awake.

His only solace during this time was his favorite food—thin chicken sandwiches and almond chocolate bars.

His total food consumption during the 36 hours was: Three chicken sandwiches—on white (he had eight with him); four large-size almond chocolate bars he carried in his pockets, one quart of light tea—heavily sugared, one pint of orange juice and one quart canteen of water.

(Continued on page 50)



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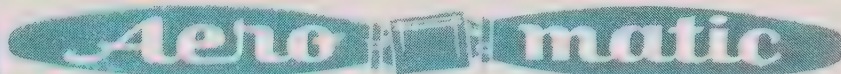


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Also available for numerous foreign models



# Bonanza Bill

(Continued from page 48)

The little silver-and-red Bonanza droned on over the Mississippi, past Chicago, and 20 minutes beyond the capital of the mid-west, the only mishap occurred.

Odom at 11,000 feet, on top, was making a position report when suddenly the faithful Continental sputtered and quit. Before he knew it, he had dropped into the overcast and ice was again forming on his wings.

A quick cockpit check-up showed him what was wrong. Intent on the radio, he had not noticed a fuel gauge flicker, indicating a tank was running dry. Quickly shifting tanks, he got his show on the road again, but found that with the ice, he couldn't climb. He let down to 5,000 where the ice began to melt. CAA told him it was clear at 2,500 feet, so he continued letting down. He did not break out, however, so he went back up to 5,000 and stayed there until he broke out in the clear near Toledo.

From then on, it was clear sailing. He climbed to 9,000 and flew the airways in.

Odom explains his misadventure simply, "It just shows you how much can go by you after two days out."

Between Toledo and Cleveland he changed his shirt and shaved with his 12-volt Remington electric razor.

It had not been until he was over Nebraska that he knew how much gas he had in his tanks as the only gauges were on the main tanks. When he could calculate his supply, however, he found that the detour had eaten plentifully into his narrow 10 per cent gas reserve.

"So from Scottsbluff on in, that engine didn't know what gasoline was," Odom said. "The last lap, particularly, I really lingered." By this time he was leaned out so far that his 185-hp engine was plugging along at 80 hp, and his gas consumption was down to the unbelievable 4.85 gallons an hour. Bill Odom made it to Teterboro from 20 miles east of Omaha, where he had finally been able to calculate his gas, on 38 gallons. His average for the entire trip was 19.95 miles per gallon. The total gas cost him \$75.

After 36 hours in the air, plus the three preflight hours in Honolulu when he was awake, the greeting for the quiet smiling pilot at Teterboro and New York was so warm that he didn't get to bed until midnight that night. When he did hit the sack, he'd been going for 51 hours.

When he finally slept himself out, and was done with press conferences and official greeters, Odom slipped into his favorite routine of talking shop.

During one bull session, a friend caught him in a pensive mood and asked him what he was thinking about.

"It's this round-the-world trip I'd like to make."

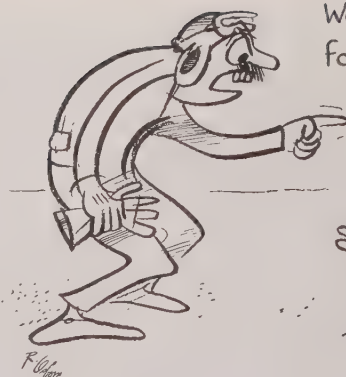
"What another one?"

"Yeah, this one I'd like to do the other way around, you know, over the arctic regions and the poles," Odom explained.

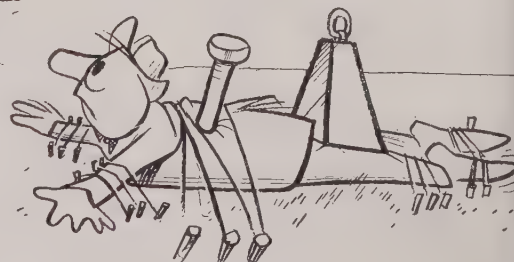
"Hey take it easy, Bill," the friend added.

"Yeah, all right," Odom replied softly, "It's only a dream anyway—so far."

We're betting he'll make it!



We're grounding you  
for GUESSING! around a plane!



## Dilbert

(Continued from page 39)

approximately 150 feet, tail to tail, from a large passenger plane. As soon as he had been gassed, the visiting pilot turned up his engines simultaneously to 2,000 rpm. with nary a look behind to see that all was clear. As a result, the flippers of the passenger plane were blown off and the controls were broken.

It's pretty sad when a pilot with 3,500 hours flight time has to have such an expensive lesson on the absolute necessity for insuring ample clearance astern when turning up engines.

It doesn't take much of this sort of sabotage for a visiting pilot to get tabbed, "The Unwelcome Guest."

**Guess Not**—Before taking off for a navigation flight, a student pilot noticed that the gas gauge for the left tank registered "low". Since he was already late for his hop, he didn't check the tank. He "assumed," as he later explained, that the plane had been gassed and the gauge was out of order.

Of course, his engine sputtered and stopped about 20 minutes after he shifted to the left tank. He made an emergency landing in a plowed field, materially damaging the plane.

You can't do this in aviation! You might not be as lucky as this chap was after a bum guess.

**Glamor Is As Glamor Does**—While on X-C, a pilot had to make a forced landing due to a sudden drop in manifold pressure. Fortunately, he found a reasonable spot to put her down and was not seriously injured.

Investigation disclosed that the basic cause of this accident was negligence on the part of a repair mechanic. The linkage from the throttle control to the carburetor had become disconnected at the carburetor when the castellated nut backed off. This occurred because it was *not* safetied at the time the carburetor was changed. The airplane had been flown 17 hours since this change had been made, which was sufficient for the nut to vibrate off.

Aircraft maintenance is a tough game—long hours of hard work which seldom make the headlines. Don't think that mechanics have to wait until the "hereafter" for their reward, however. Good ones get their reward each day. It's a great satisfaction to see the plane you've worked on come humming back from a flight. It is

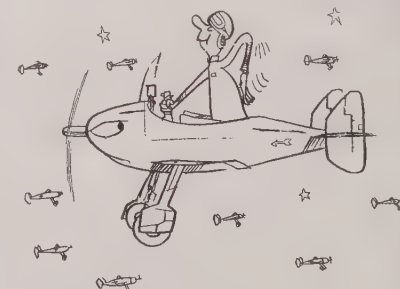
proof that you have done a good job.

It takes a little imagination to put glamor into your work. When you stop to think how serious the results of any mistake on your part can be, it doesn't take much intelligence to realize that your mechanics hold positions of great responsibility in aviation. This responsibility demands your best: infinite pains, plus careful attention to every detail. The lives of the people who fly your work depend on your eternal vigilance. Don't ever let them down!

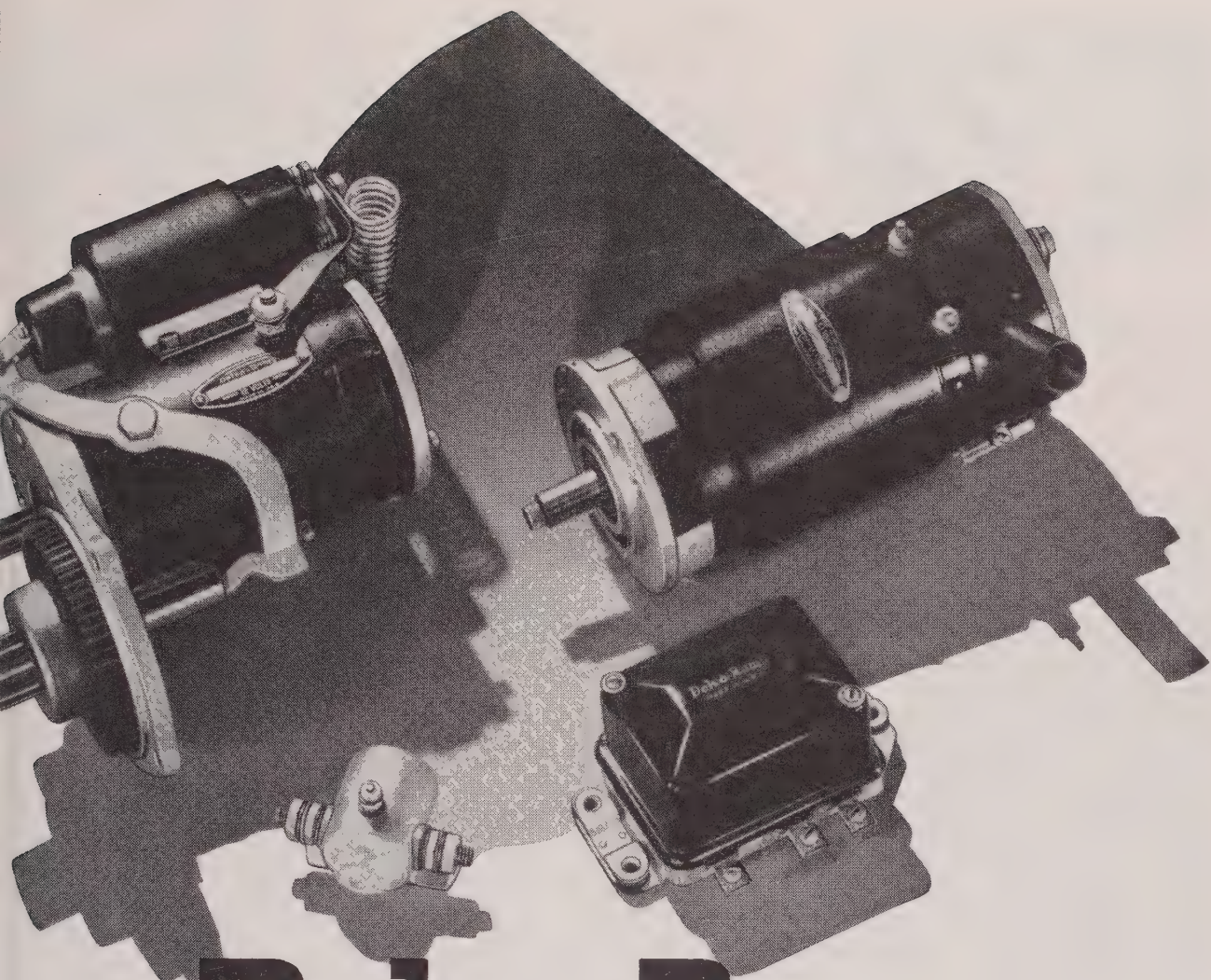


**Look Before You Land**—Patting himself on the back for successfully completing his first night flight, a student pilot entered his landing glide. But he patted himself too soon, and in the wrong place. This happy student failed to note the wind had shifted 180° since his take-off, and that he was now landing down wind.

At this same moment, another student was landing correctly on the same runway—into the wind. This student suddenly saw the first student bearing down upon him. Probably because he wasn't so busy patting himself on the back, he was able to take drastic action, to prevent a head-on collision. The tips of the opposite wings did not quite clear, however, and extensive damage was done to both airplanes.







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service unless you supply extra postage.

## Midget Mustang

(Continued from page 24)

course, small but comfortable. Dave's record to date for any one hop is two hours and 55 minutes (with extra five-gallon gas tank), during which time, he reports, he experienced no discomfort at all. Considering the gasoline capacity, that's probably about the longest you'd be sitting in the *Midget M*, and in that time you'd have covered about 410 miles.

Visibility from the cockpit is quite good. Looking forward, I could see about a foot beyond the windshield along the front of the fuselage. The nose drops "off" below that point, with the prop spinner completely out of sight. Sideways and upwards there are no obstructions, but be sure to check the elevator and rudder control operation before you start your take-off, because they're out of sight once the canopy is closed.

Having flown irregularly during the past year, I asked Dave for a few check-out instructions. With a big grin, he replied, "You can fly a *Cub*, can't you?"

Dave reached over, gave the primer a couple of shots, and strolled out front to prop the ship. Thoughtfully he did come back with a word of advice after the engine started, "Just remember you're down low when you come in to land!"

"Low" is hardly the word for it. After closing the canopy and checking the panel, I started out for a go at taxiing the mighty *Midget*. The *Midget* sits so low to the ground I thought the landing gear had collapsed. Somehow, however, I became accustomed to my nearness to nature and didn't mind the field's tall grass tapping their tops against the canopy. In fact, as time went on and I bounced along the edges of the runway strip, I grew to like my intinacy with the worms and clover that shared a "down-close" position.

This "lack" of ground clearance is something that warrants consideration: in UP position the flaps are 14 inches from the ground, and the wheel pants are the mere height of a package of cigarettes and a deck of playing cards! All of which limits operation of the *Midget Mustang* to fairly smooth, hard surfaces.

The ship offers excellent directional control with rudder pedals alone . . . and that's on either hard surface or grassy field. The sensitivity of directional control and the amount of pressure required is impressive in a startling way. Just a touch of the heel . . . a mere whisper, in fact . . . on the rudder and you find yourself S-turning down a taxi-strip. A slight touch on the toe brakes and you're at a dead stop!

At the end of the runway and with the oil temp near 40°, the altimeter set, primer locked and flaps up, I was ready to run her up. Holding the stick back and toe brakes on, I revved the *Mustang's* engine up to 2200. The ship displayed no tendency at all to lift its tail at that rpm. At idling and a bit higher, the ship rocked a bit, but aside from that I noticed no vibration. There was no drop in rpm on the mag check at 1800 rpm, so I was ready to go.

Opening full throttle, there was quick acceleration without any noticeable

torque. The instant the ship moved forward I was ready with some too-heavy rudder pedal action and as a result I did a snake-dance routine down part of the runway. I finally overcame that, however, and straightened the ship. I had it under good control about a third of the way down the runway. But, boy oh boy, the sensitivity of that rudder is terrific! slight easing back on the stick and the plane shot off the field at 80 mph indicated. With the ship's nose pointing up at what seemed to be about 30°, I had good 400 feet by the time I was over the edge of the field. Looking back at the take-off now, I realize that I could have gotten the plane off the ground in 50 feet if I hadn't been so A-T minded (A-T—that is).

Climbing at an indicated 100 to 110 mph, the *Midget Mustang* showed a rate of climb of 1500 fpm with the nose well above the horizon. In that attitude forward visibility is pretty restricted, so climbing turns should be recommended procedure going up. Regarding this rate of climb, Dave reported he'd had the ship up to 14,000 feet and it was still climbing at a rate of 500 to 600 fpm, thus indicating the mighty *Midget* has a ceiling of something over 23,000 feet.

One strange thing about the *Midget Mustang* that I noticed when we were clear of the ground was that, despite its size, it didn't feel at all like a mosquito. Strangely enough, the *Midget* felt like a very solid ship, even though the wing tips seemed to be within easy reach. That feeling of solidity might have come from the high-pitched droning of the engine. Although some noise seeps into the cockpit, it isn't uncomfortable. I'd say the noise level was about the same as the AT-6.

Leveling off at 2,000 feet and circling back toward the field, I cruised along at a nice 168 mph indicated at 2800 rpm. There wasn't any rough air to give the ship a real riding test, but I'd say it compares favorably to the ride a PT gives.

While the *Midget* grosses only 850 pounds, it has a wing loading of 12, compared to the 11 to 13 of the PT's.

Performance at cruise in level flight showed the junior-sized *Mustang* to be a stable ship. If you hold the rudder fixed and deflect the ailerons and then release them, the wing drops a bit, then slowly returns to level position—all of which is what the aero engineers call "positive dihedral effect." Unconscious pressure on the stick can't be excluded in evaluating the performance, however, as the ship is slightly nose heavy and constant back pressure, even though slight, was required to maintain level-flight attitude. This nose heaviness will be overcome via trim tabs on production models.

A sharp deflection of the rudder pedals and I felt as though I were going out the other side of the ship. The nose snaps back that quickly, and with no oscillation. Such extreme sensitivity of control is uncomfortable. However, Dave promises this will be toned down in the production models.

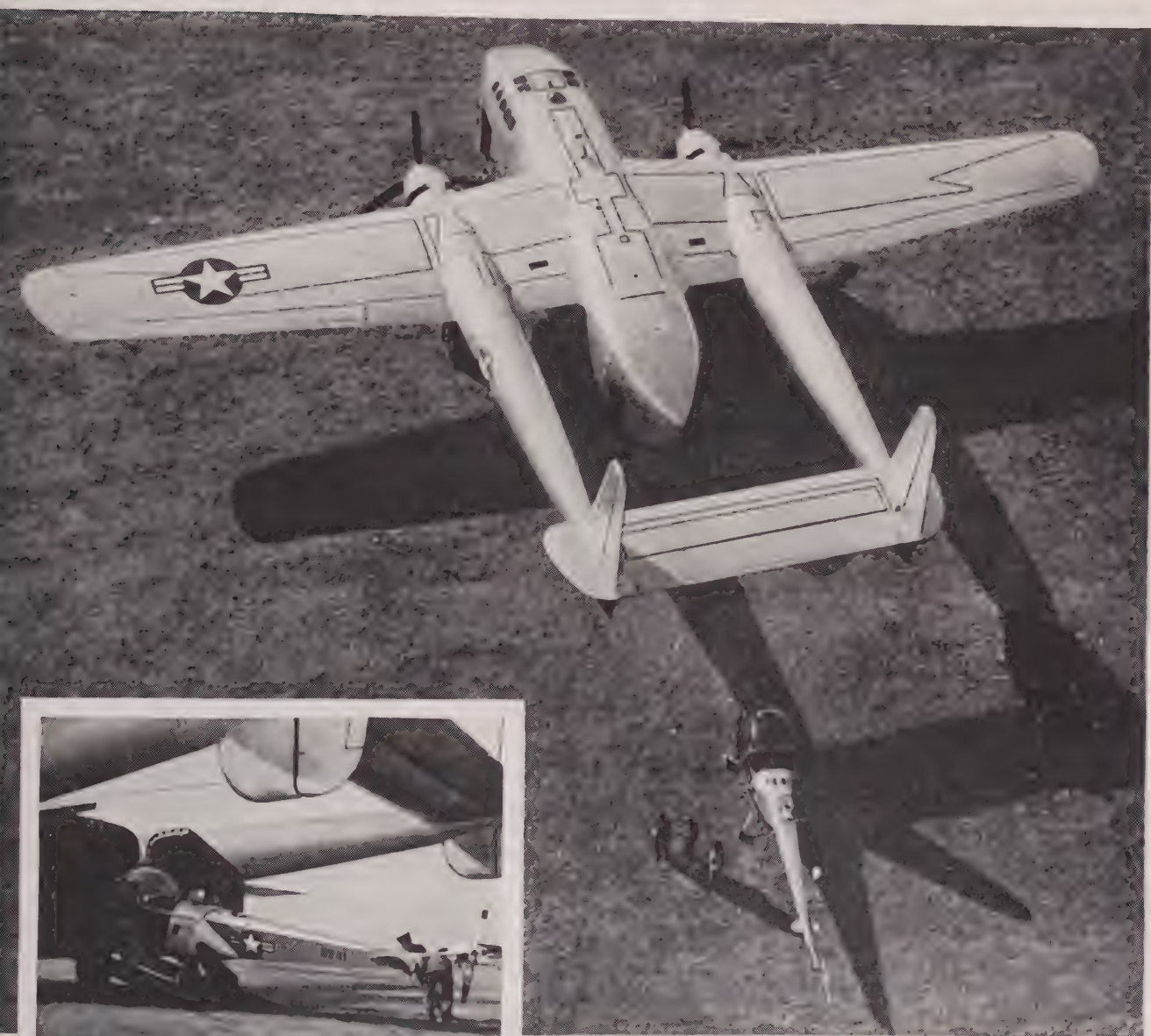
With feet flat on the floor and by stick alone, rolling turns can be made easily. Rolling turns by rudder can be made equally easily but they're a little more jerky

(Continued on page 54)



# AIR RESCUE

Over faraway jungles, deserts and mountains, helicopters of the USAF Air Rescue Service have flown in search of stranded airmen and passengers. The helicopters got there because they have been given a "mother" ship—the Fairchild Packet—that transports them over distances far beyond their range. Thus, our Air Force has added a new ability to the versatile Fairchild Packet—increasing the importance of its part in the development of modern airborne military tactics.



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# Midget Mustang

(Continued from page 52)

at the outset because of that high degree of sensitivity, and sudden power changes don't upset the ship's attitude.

The *Midget Mustang* has a really fast rate of roll. A flick of the stick and you're over 100°. Characteristics like that sure make for a playful and exuberant flight, but one which calls for constant alertness on the part of the pilot.

While I was whipping the little *Mustang* through the skies above Lock Haven, something of a weather nature was whipping up, too. Low hanging clouds began drifting in and in short order the whole area was under a cold 2,500-foot ceiling. This may not seem low, but remember—Lock Haven is surrounded by what the natives call "hills" and visitors call "mountains." Actually, the hills are charted as 1,500 feet. With ground temp near freezing and precipitation expected, icing in the clouds was a certainty . . . so I dropped down well clear of them and stayed there. The *Midget Mustang's* 85-hp Continental engine employed fuel injection so carburetor icing wasn't a worry.

Having a go at stalls, I throttled back to 1800 rpm and eased back on the stick. The airspeed dropped off to below 80 mph, but . . . no stall. Cutting back the power to 1000 rpm, the speed dropped to 75 . . . 70 . . . and then 65 mph, but there was still good control. When I got it down to a hair under 60 mph, the tiny ship buffeted a second or two and then quickly

went into a clean straight stall. However, with just a little easing forward of the stick again it was back flying. With half flaps, it was a cinch to control the ship at 60 mph at 1800 rpm, and the stall didn't occur until airspeed was below 55. Dave Long has built good control in stalls into the ship. By design, the stall occurs at the mid-point (spanwise) of the wing, and from there progresses inward to the root and outward to the wing tip.

I started back upstairs after the stalls, but when I noticed ice forming on the windshield and wings, I went back down to 1500 feet again.

Remembering that Dave said the best range of the *Midget* is at 140 mph cruise at 2400 rpm, I tried it out at that setting. It flew beautifully. Just for fun, I held the ship in level flight (remember . . . no trim tab on this first model), then rocked myself from side to side. Sure enough, the ship rolled a bit too.

Diving down over the field at high speed, I next wanted to see what it would be like to race the plane, recalling that Charles Logsdon, N.A.A.'s Contest Division Director, had mentioned that the only thing holding up a Midget Class for women at Cleveland this year was a guarantee of about six entries. Now that a midget plane was available for purchase, no longer requiring a gal to be a designer and builder or foot the bills for same, there seemed to be a flurry of interest. Actually, a woman's race might turn in some surprising times considering the weight saving of approximately 8 per cent over the same airplane flown by a man.

Leveling out about 50 feet above the ground, the *Midget Mustang* whisked 90° around an imaginary pylon with very little effort required to hold a nearly vertical bank. Dave has figured a good racing turn to pull 4½ or 5 g's, cutting the speed down to about 190 mph indicated from a high speed on the straight-a-way of a little over 200 mph.

Getting up well above the field I again tried another dive. In a quick pull-up a hardly perceptible effort was required with stick force probably between five and 10 pounds. There was no g meter in the airplane but acceleration in the maneuver was probably sufficiently high to have required ideally a very definite application of force on the stick (perhaps in the neighborhood of 25 pounds).

Cutting back into the pattern, I cut the speed down to 100 mph to lower half flaps. Checking the altimeter, I pulled the flaps up quickly, but the ship showed only slight loss of altitude—25 feet or less. Dave does not recommend slipping with flaps down but has tried it and he reports favorable characteristics—constant steady pressure needed to hold the low wing down and with more opposite rudder control than needed to maintain a violent slip.

Since the *Midget Mustang* is a very clean airplane and loses speed slowly, I cut the throttle back to 1800 rpm on entering the base leg at 120 mph to let the airspeed drop off to 100 before turning on approach. Buzzing along a couple of hundred feet over the rooftops at the edge of the field, I lowered half flaps and maintained a steady glide of 80 mph. "Over the fence" at 70 mph, I eased further back on the throttle. When the height of the grass appeared right, I started back on the stick, but quickly reconsidered and dropped down another three feet before getting the nose up high enough to cut out forward vision with the stick full back. When the first panicky thought of a "Look no wheels!" landing was overcome, and the plane was clattering along in three-point position, I pulled off the runway to taxi back to Operations. Looking back the landing appeared to have required a 1200-foot strip to dead stop. However Dave later suggested that a 1,000-foot strip would be plenty to operate from at sea level with clear approaches, if the pilots were familiar with the plane.

To the group collected at Operations, my ear-to-ear grin as I climbed up out of the ship proved me to be another new midget enthusiast. With that happy introduction to the kind of airplane you can wrap around you and whisk off in, I hustled over to Dave to get the word on production dates and find out what you had to do to get one.

Dave has five on order and plans to push them right along as soon as all tests are completed. He'll take on new orders as they come. With 45 hours on the *Midget Mustang*, originally the "P-Shooter," Dave has already upped the landing gear strength, shortened the gear, improved the engine cooling and modified the bubble canopy. Changes to be made in the production model include trim tab, slight modification in the fuselage fairing, widening the tread of the wheels (which should provide good cross-wind handling and reduce the possibilities of ground looping).

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Of course the propeller blades on Bill Odom's Bonanza, used on his world's record breaking flight, were armor coated, and built by Flottorp for the Beechcraft Controlable Propeller.

These blades give the same extra qualities of resistance to the Beech prop that they do to Flottorp fixed pitch models.

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provision for a baggage compartment large enough to take a B4-bag-sized suitcase with a weight allowance of 35 pounds. Gross weight of the production model will be 850 pounds; empty weight, 525 pounds. The 15-gallon fuel tank will be standard with a 5-gallon auxiliary unit behind the seat if desired.

A prediction on the market for this high performance custom-built single seater is difficult and the experience of Dave Long of the Schweizer Brothers will be watched with interest. The clean lines and thoughtful designing evident in the *Midget Mustang* do have a special appeal, and its quick response and ease of handling will place it high in the regard of pilots. However, while the light stick forces in the present model are a joy and perhaps a necessity to racers and aerobatic pilots, they give pause in considering the airplane's place in a sport-flying category. In addition, the plane is so compactly built that, while provision for a generator could be made, installing a radio and battery would require some modifying. Installation of lights is also not planned for production models. It is probable that the lack of this equipment will place the *Midget Mustang* in the "extra plane" category—ideal for those who are in a position to make use of its very desirable features! You can swing the \$4,995 initiation fee, you'll be joining a club of rather original conservatives who will race and stunt little planes or just plain fly them for sheer delight.



## Short Haul Hoppers

(Continued from page 31)

commented President Brown from behind the ticket window. "Over 400,000 visitors travel to Santa Catalina Island each summer. They can get there by boat or water taxi in a more than two-hour trip; they can fly across in a DC-3 with a nine-mile bus ride from the airport into town, or they can fly over with us and be in downtown Avalon within 25 minutes of the time they climb aboard.

"We give our passengers a quick 17-minute flight plus a speed boat ride, all for the price of one ticket."

The most popular seat in the smaller amphibians is the co-pilot's spot where passengers get an unobstructed view of the flight. Two pilots are carried on the 22-passenger Sikorskys, but the Grummans are flown by only one pilot.

During their first year of operation, using only the smaller Grumman planes, the airline carried over 25,000 passengers during the five-month tourist season. With such a passenger-potential, the operators went all-out and purchased two surplus Navy Sikorskys and another from Hawaiian Airlines.

To speed loading and unloading, the airline has built what is thought to be the only floating "seadrome" in existence. Constructed around a rock barge, this drome has two 30x45-foot inclined ramps so that the amphibians can drop their

wheels after landing in the bay and taxi up out of the water to unload passengers. Water taxis then drop the passengers at the downtown Avalon dock only a few hundred yards distant.

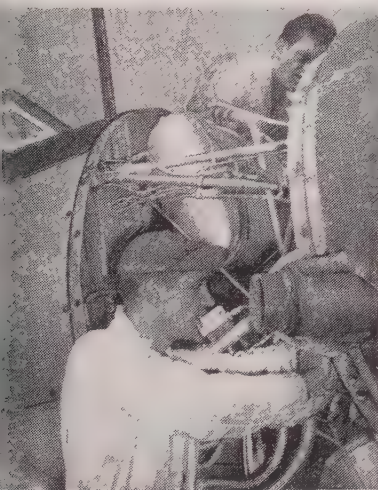
All has not been smooth sailing for this shortest of airlines. As in many aviation ventures, they have had their red-tape headaches. Periodically, one government agency notifies the company that they are operating an inter-state (between states) airline without its approval. Company lawyers, however, feel that the line is operating an intra-state (within one state) line that does not come under anything but California State control. After all, they contend, isn't the City of Avalon in Los Angeles County?

With a round-trip flight made in 45 minutes, including passenger loading, it is a simple matter for the airline to add extra sections when regular flights are full.

"We try to keep our summer schedule just like a street-car line," explained Vice President Hunsinger. "If you miss one flight, just climb aboard the next one. We can always run an extra flight or two if the seats on the regular run are all taken."

While not going out after longer routes, this infant airline is contemplating off-season sportsmen's cruises to Mexico and South America to keep the planes busy during the lull in the tourist season. In the winter, flights drop to three a day.

All in all, it appears that this unique Southland service should prosper with the slogan, "All aboard on the short line."



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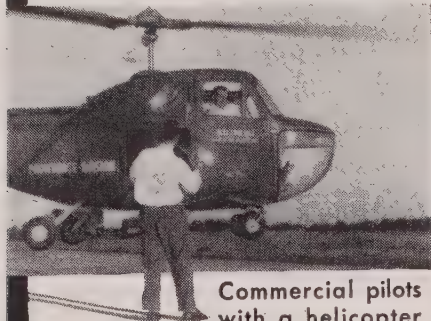
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## Magic Multiplier

(Continued from page 29)

landing, and it'll remind you to reel in the antenna. Simple, isn't it? Inexpensive too.

The most popular frequency used by private-plane transmitters is 3105 kilocycles. The length of a receiving antenna is not critical. The length of an antenna for transmitting is very critical. It is not possible to install a fixed antenna long enough for transmissions on 3105 kilocycles. Therefore, some means of increasing the length of a transmitting antenna is needed. About 75 feet of wire is required for efficient transmission on 3105 kc's. A fixed antenna is usually limited to 30 feet or less, depending on the physical dimensions of the aircraft. Artificial electrical lengthening is incorporated in all fixed antenna installations to increase the 20 or 30 feet to about 75 feet, but the electrical energy on a short piece of wire can never radiate as efficiently as it does from a full 75 feet. That is the principle of mileage-multiplying behind the trailing antenna.

The tuning up of a transmitter using a trailing antenna is quite simple. There is an electric meter with every transmitter installation. This is known as an ammeter. Simply connect the trailing antenna to your transmitter by means of the switch or jumper wire provided for that purpose. Several rises on the ammeter needle will be noted as the trailing antenna is let out. The microphone button must be held down while tuning up, to keep the transmitter on the air. A maximum rise or deflection of the ammeter means that the correct length of antenna has been let out. Several lesser meter deflections occur when 18 feet and 37½ feet of wire are let out. Seventy-five feet of wire will give the highest reading. Here is a step-by-step procedure:

1. Unreel trailing antenna until all the wire is out.
  2. Hold down microphone button.
  3. Reel in antenna slowly, until ammeter needle shows maximum reading.
  4. Your transmitter is tuned. Lock reel in position and transmitter is ready for use.
- Practice tuning your transmitter on trailing antenna the next time you are aloft. Contact an airport tower on fixed antenna, then fly out of range (when tower operator says he can no longer read you). Then, switch to trailing antenna and you will find your signals are still loud and clear.

A trailing antenna can also serve as an anti-static antenna. Listen to your receiver on the regular antenna. If heavy static from snow or thunderstorm is annoying, let your trailing antenna out and ground it to the fuselage with a jumper wire.

Just make sure to use that clothespin check and *never land with your trailing wire out*. In icing conditions, *never use a trailing antenna*. It will become coated with ice and you will not be able to rewind for landing.

To increase your transmitting range five times by using higher power would mean spending a great deal of money. Your ship probably would not accommodate the added weight of a high-powered transmitter. A trailing antenna's cost is negligible, and this magic multiplier of transmitter range is mighty cheap insurance.

## Executive Planes

(Continued from page 27)

was assigned the Herculean task of developing and building the company's aviation petroleum business. So successful was the job that one man and his airplane did, the next year a second plane and a second pilot-salesman were added to the payroll. By 1942, when war came and with its gas line allocation, the Gulf fleet had grown to five airplanes and pilot-salesmen. By 1944 an aviation representative was assigned to each of the sales divisions.

Probably one of the most unusual uses to which an airplane has been put is the task Gulf's research and development departments have assigned their aircraft. The men of the research and development divisions, the airplane is more than a helicopter... it's a downright necessity. Their work is frequently carried on in areas so remote as to be entirely without roads.

In the days before the airplane, the development of oil fields in such inaccessible areas were projects that consumed not months but years. Thanks to today's airplane, however, areas are analyzed and fields are set up in a fraction of that time. Rather recently a Gulf geologist heard of oil seepage in a certain part of Alaska. Eager to get more info, Gulf men boarded a company plane, were flown to the area and in two days' time had all the necessary data on hand... data that indicated the area did not warrant further exploration. In a similar case 10 years ago, an expedition would have been equipped and sent on its way... to discover months later the same facts that today are learned in a matter of hours.

There are several ways to save money and Gulf's production-department plane has chalked up a nice score on the black side of its ledger. A few years ago a stubborn oil-well fire broke out in a Gulf field in Colombia, South America. As soon as word of the blaze reached the Gulf office in the States, two of the best-known oil well fire fighters in the world were located in the southwest. These two men were flown by company plane from Texas to Miami, where they took off via commercial airliner for Colombia. At Colombia the men were met and flown by Gulf plane to the scene of the fire. The fire was extinguished, and lives and money saved... all in one single day! Without the airplane to get the fire fighters to the scene, that fire might have burned for a week.

As far as flight safety is concerned, it's tops. All the ships are equipped with two-way radio and full instrument panels, and each ship gets a very careful going over at regular intervals. Nothing escapes the trained eyes of Gulf's aircraft maintenance men who are as proud of their charges as Gulf is of the whole operation.

The aviation industry owes much to the oil companies which have consistently developed more and better fuels and lubricants for aircraft use. Today, aviation is returning the favor by making available to the oil industry the aircraft that in so many ways are helping it carry on its nationally important business with a higher degree of efficiency.



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## SOS Sleuths

(Continued from page 19)

to stick. Back propped against the twisted fuselage you dab at your cut forehead with a wet handkerchief and begin to add up your chances of rescue. Short of a Grade "A" miracle, they don't add up very high. Another hour passes and back over the mountains that miracle is already coming to a fast boil.

The mosquitoes seem to be making more noise, or isn't it insects? Down the valley, low over the river buzzes a helicopter. You leap to your feet, wave your jacket, scream your lungs out. The craft thrashes overhead, turns and comes back straight to the bar. It stops overhead and then buzzes down along side the wreck as you hobble towards it grinning like an idiot.

The rotors swish to a stop and out of the cabin steps a tall thin blond chap with a pleasant grin and a slightly medicinal air: Lieut. Charles Manlove, MC., flight surgeon of Detachment "B" of the USAF 10th Rescue Squadron, Alaska.

"You certainly gave us a break," he says, "We had a hunch you might make a try for this sandbar. One of the weather stations down the river heard a ship go over about an hour ago, so we decided to check here first. Let's take a look at that forehead and then get out of here. River is rising, so you might as well write off that ship . . . unless you want a piece as a souvenir," he concludes with a grin.

An hour later, back at Ladd Air Force Base, cuts and bites patched up and with coffee warming your innards, you begin to read the recipe for the miracle behind your rescue.

An aircraft and its crew down in the wilds of Alaska is a particularly elusive needle in a particularly frightening haystack. It requires a magnet with a very special kind of savvy to locate it. Fortunately for those who fly over "Uncle Sam's Attic" there is such a gadget.

The 10th Rescue Squadron of the United States Air Force is that three-pronged magnet. One prong, Detachment "A," is at Anchorage where the headquar-

ters is located; Detachment "C" is perched on Adak island in the Aleutian chain. Detachment "B" operates out of Ladd Air Force Base, at Fairbanks, and has the largest and most active sector of all to probe: from the Alaskan Range to the North Pole, and from the Bering Strait to Greenland, if need be.

If you are down in the Alaskan wilderness within the range of the gang of Detachment "B" you have a pretty fair chance of getting back to civilization in a hurry—if there is any need for hurry. But first you have to be found, and, that's the tough part.

The men usually wait about an hour after an aircraft has failed to arrive at its destination at the "ETA" (Estimated Time of Arrival) before starting a search. Unless an indication of a crash has come in sooner, that hour of grace is to give those down near some means of communication a chance to contact the outside world. It also gives those held up by winds or wandering a chance to arrive safely but later than estimated.

In setting up a search for a missing aircraft, Lieut. Col. Eugene O. Strouse, CO of "B," and his sleuths, sort of "crystal-ball" what the missing pilot *might* have done and where he *might* have gone. They know the type of plane he is flying, its range, its ability to get over mountains, and its speed. They know the weather where he vanished. All of these facts are poured onto a council table and from these pieces they assemble a fairly accurate picture of the area where the missing pilot probably went down. The knowledge of the country helps and the fact that they themselves are all veteran pilots gives them a pretty good idea as to what they might have done and where they might have gone under similar circumstances. This cuts down considerably the area to be scanned.

In such an emergency the Colonel can commandeer any and all aircraft, pilots and communications needed for the mission. Each search pilot proceeds to his allotted sector and begins to take it apart, almost tree by tree. He criss-crosses it from every angle until absolutely sure

(Continued on page 62)

## Routine Miracles

(Continued from page 36)

"Who's your instructor?" he shouted. Pete cleared his throat. "He's that sh stocky fellow, sir."

"GET OUT!", the major bellowed. "YOU," he said to Chuck, "get in."

Pete undid his belt and stumbled on the throttle quadrant, skinning his knee on the gear handle. "You," the major said to him, "fill out a failure slip."

"Yes sir. Is there any particular way to do it, sir?"

"Yes. Write down 'complete failure'

Chuck did a little better with the procedure and shortly we were lined up for take-off. "Let's go, let's go," the major shouted, and full forward. For the few hundred yards the runway wiggled back and forth, but Chuck found it, lifted his nose as prescribed and began to sport the rudders. Just as the miracle of flight occurred, the major cut number four. We had all been warned to increase power, cut the engine, feather, dump the nose and call eight specific instructions.

Chuck just yelled. Violently the major dumped the stick so that we threatened to decapitate Albuquerque's Church of Good Faith. He threw number four back in and malingered while Chuck ascended to traffic altitude. As he entered a climbing turn to the left, number four vibrated again. Chuck righted the aircraft, lowered the nose, and managed the very ordeal. But Maj. Gurdy hit the stick far too forward and yelled, "Dump it, damn it! Dump it! You wanta kill me?" Everybody had an answer for that but reserved it.

Briefly, he sent Chuck around and more, blistering all the way about holding the pattern out too far and not dumping the nose. One thought started thumping my head—no matter who occupies the pilot's seat, the pilot is in charge, particularly under emergency. He is the one even though higher rank bears the full responsibility. And when you're master of the B-24 it's being master of destiny.

Maj. Gurdy flunked Chuck and I for the blue nausea. It would be a group post with gravel-grippers in Marfa, Texas. Whatever I did had to be revolutionary.

I got into the seat and told the major to tighten his safety belt. He detected a commanding tone in my voice, but his belt was loose and he figured I was either excited or trying to polish the apple.

Then when he interrupted my radio procedure I clicked to interphone and said, "Please, don't clutter the air with chatter. Comments are to be made over intercom."

He whirled around and told Pete to hand him a piece of paper. "What's your name, lieutenant?" he demanded.

I told him.

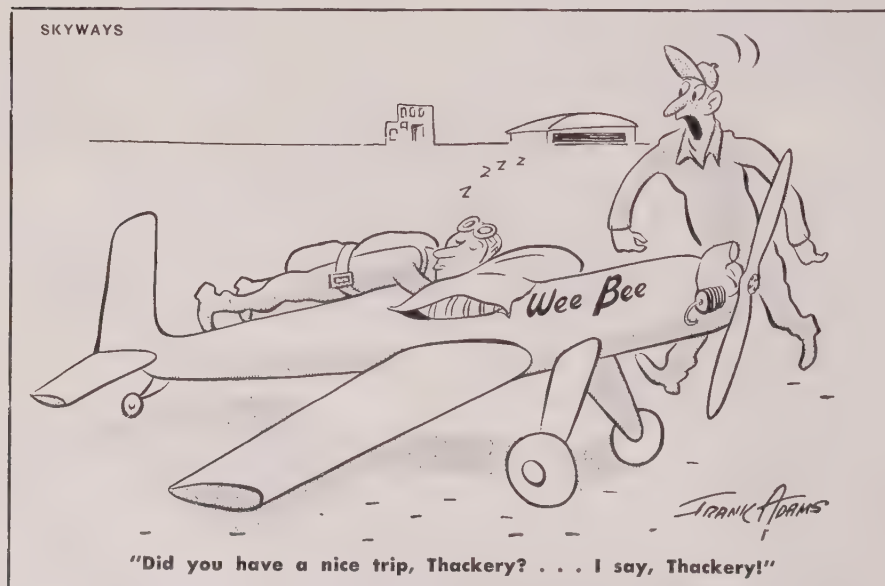
"Okay. Quit stalling and get this on the ground."

"The left mags got a drop."

He scowled at the needle brusquely. "We check the plugs when we come in. No let's go." He glanced at his watch and knew he was remembering a dame.

Thirty feet in the air he cut number one, being very tricky.

"Crank in turboes and get on the rudder," I yelled. And as he obeyed, he dumped the nose so violently he hit





on a projecting rod. I set my jaw  
a look of hatred. We were heading  
the ground and it was pretty damned  
ious I intended to make an emergency  
ing there. That was exactly what the  
bat pamphlet said to do when you  
an engine on take-off. When the  
or saw I meant business, he fed in  
ber one and sank back.

We climbed to altitude and resumed  
fic. On the down-wind he cut out  
ber four. I plunged the nose. He put  
back. I levelled. Then he cut it again,  
h number three, and I plunged deeper  
that he pulled back against me and  
l sweetly, "don't overdo it."

"Give me 20 degrees flaps," I said as  
restored the engines.

"You're only supposed to use 10 on the  
wn-wind."

watched and saw that he only gave  
10, so I picked up the mike. "I said  
degrees, major."

He looked around and obeyed.

"Call the tower," I barked.

"Seven-0-six turning cross-wind," he  
l, then treacherously cut off numbers  
and two. I knew he wanted me to  
h into dead engines. He could eliminate  
with utmost moral pleasure. Instead,  
pointed the aircraft straight for the  
detic field and from all appearances we  
re going to lose both wings going  
ween two barracks. "Pull up the landing  
r," I shouted, "and feather props."

He glowered at me. "Lieutenant, these  
ps are stripped down. They fly on two  
ines. You can make a three-sixty and  
d on the runway."

"I thought we were training for combat,  
or?"

He threw all throttles forward and took  
ontrol. He called the tower and told them  
was going around and coming in for  
final landing. The major was a good  
ot. He said nothing to any of us, low-  
ed the flaps by himself, took care of all  
cedures. The manner in which he  
red at the instruments fully indicated  
t he was eliminating all three of us.  
He glanced around. "Get out a slip and  
t down your names and numbers."

My heart seeped into my boots like  
iting wings. I had somehow avoided  
se Waterloo pilots in cadet training.  
w there I was, along with two buddies,  
ling the dull thud of the incontrovertible  
e. Sickness turned to humiliation, then  
that spirit of vengefulness.

As Maj. Gurdy turned onto the cross-  
nd, I calmly reached over and chopped  
ee and four. Pete, Chuck and the  
ineer thought certainly the engines had  
ed. The major was too startled to do  
othing but react. And he did it with  
azing prowess, tugging the ship into  
sonable flying attitude. I knew he was  
upt to shove throttles forward and  
ve me courtmartialled; but in my action  
implied challenge and there was also  
matter of professional pride involved. He  
ored grimly and told me to call the  
ver. Unsuspectingly, of course, he had  
wn, a normal pattern and was pretty  
de of the field.

Turning onto the final I gingerly reached  
and cut number two. That left the  
major one rattling outside engine and  
dly enough muscles. His rudder peddles  
re too far forward and he had to scrouge

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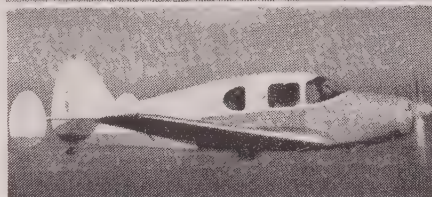
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down in the seat to reach them. Pete and Chuck lay on the floor behind us, their arms locked over their eyes. The engineer was hanging onto the top turret, breathing pure oxygen.

Maj. Gurdy was arguing with that plane like nothing I've ever seen. Bluntly, we were dragassing it toward the field like a lopsided barn with swinging doors. We could see the fire engines whining out for the emergency. The tower was shaking with instructions. Personnel were spilling from all the barracks.

There we came, hanging by one prop, 2700 rpm's, full turbo, stalling airspeed and part of a farmer's fence on the tail. It was the damndest job I ever saw. He cut everything 20 feet from the runway

and kicked the ship around just as the wheels struck asphalt. There wasn't a bounce, there wasn't a jolt. On top of that, our airspeed was so slow the major stopped the ship in a matter of few hundred feet!

Without comment he taxied up to the parking ramp and we all got out. At the parachute hut there was a jabbering crowd of students and instructors. "Who made that recovery?" somebody yelled.

The major threw his chute into the slot and yelled generally, "I did. Was there anything particularly unusual?" He looked at me and said, "come over here."

We stepped aside and I know he stared at me for 20 seconds. Then he smiled. "You wise little s-----b."

He passed all of us.



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(Continued on page 62)



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## SOS Slenths

(Continued from page 58)

there is nothing there resembling a crashed aircraft. First he checks every known flight strip where a landing might have been made. The meadows, sand bars and clearings are looked over. Finally the deep ravines, mountain slopes and glaciers are inspected at tree-top level.

In deep woods, searchers look for freshly broken branches or tree tops, smoke, torn ground and bits of color or shiny metal. (Seldom does a crashed aircraft resemble one when found.) In deep snow they look for craters, oil and smoke stains and again the colored or shiny bits of metal. Civilian aircraft flying over Alaska are painted bright red or yellow and military aircraft have red tails and wing tips for higher visibility in both timber and snow.

All of the men and officers of "B" have been through the Air Force's Arctic Survival School at Kotzebue. Not only do they know how to use the survival equipment carried aboard military aircraft but how to improvise their own from materials at hand. Many improvements in that equipment and in survival techniques have been a "class gift" from the Detachment "B" alumni of the Kotzebue "campus."

Once a crash has been located, this knowledge is invaluable in the case of the injured. Sometimes a camp has to be set up at the scene and the injured treated until able to be moved. If a plane cannot be landed at the scene, one of the helicopters goes in with Dr. "Chuck" Manlove, who takes charge of the improvised hospital. "Doc" Manlove flies on most of the mercy-missions of the "B" gang (they average nearly 10 a month) and his patients are varied.

A few months ago a private aircraft took off with a pilot and student to practice spins. They flew out over the swampy tundra to pick an isolated spot for their "home work." Something went wrong and the Fairchild PT-23 spun right on down into the mushy surface.

Both of the men were badly injured and had about one chance in a thousand of being spotted . . . and less than that of being reached on foot or by any surface vehicle. Aircraft from "B" found them and radioed for the helicopters. Even a "pin wheel" landing was a touch-and-go proposition on that oozing surface.

The pilot of the craft settled down as close to the crash as possible. With his urging to hurry ringing in their ears, the rescue personnel sloshed to the injured men and brought them back to the rapidly bogging down helicopter.

With injured and crew finally aboard, the pilot gunned the engine. For moments it looked like a hopeless affair for the wheels of the helicopter had settled almost a foot into the swamp. Slowly, however, inch by inch, they came up. Tough enough job lightly loaded but with the two extra men in the litter baskets it was going to be close. Finally, like an angry wasp yanking its feet from a sheet of fly paper, the helicopter tore its gear loose and soared away. One of the injured died later, but the other survived, thanks to the skill and know-how of the men of the 10th.

Race, creed, or color never enter into

the case. If a call comes in, personnel of "B" are ready. Sometimes in winter they have to parachute two-man rescue team trained in first aid to the crash scene. Do teams may have to be chuted down to the crash with their sleds and equipment to bring out the injured if a helicopter can not get to them. Over-snow tractors pitch in. Every trick of bush and tundra travel is utilized to make even a winter mercy mission above the Arctic circle "routine."

Not too long ago "B" proved its ability to get'm out by glider. Six occupants of an Air Force C-47 which made a crash landing the night of December 13, 1944 on the frozen Stewart River 75 miles southeast of Dawson, Yukon Territory were safely back at Ladd Air Force Base on the night of December 14 after the first glider pick-up rescue in the history of Arctic flying.

The pilot of the downed C-47 later stated that, while on a routine cargo mission to Point Barrow, all the aircraft's radio receivers went out. Poor flying weather and a strong crosswind soon caused the plane's crew to lose their bearings. After a total of nine hours of flying, the pilot, with the help of a bright moon picked out a wide spot in the river below him and made a wheels-up landing on the ice.

The pilot's radio transmittal that a landing had been made was picked up by Northway radio, 150 miles to the west. A search was then begun in an area fanning out 200 miles from Northway in all directions. A searching C-47 piloted by Lt. Richard G. Lind, Kenmore, N. Y., one of 14 planes which joined in the all-night search, spotted a fire beside the downed transport early on the morning of December 14.

At dawn that morning, a C-54 with a CG-15 glider in tow, took off from Ladd Air Force Base for the crash site. Accompanying the C-54 was a C-47.

The C-54 reached the crash scene at 11:30 in the morning, and the glider piloted by 1st Lt. Richard A. Hopkins, Sturgis, Mich., was released. The motorless craft landed on the river about 100 yards from the downed C-47.

The six survivors, all in good condition despite the 25-below-zero weather climbed aboard the glider and after three hazardous passes over the hilly terrain, the C-54 pilot and CO, Lt. Colonel Strouse succeeded in picking up the glider.

The glider was then towed to Northway, Alaska, where it was released because of darkness. The C-54 landed at Northway shortly after the glider and picked up the pilot of the glider and the men he had rescued. The four-engine transport returned to Ladd Air Force Base shortly before 5:00 P. M. on December 14, 1948.

There is very little time off for either the pilots, men or officers of any of the three units of the 10th Search and Rescue Squadron of the United States Air Force. The personnel of Detachment "B" is decidedly no exception. Once in a while members of some other unit, unfamiliar with their work, refer to them as the "10th Sleep and Rest Squadron." It is just common sense to smile broadly when they do . . . if any of Col. Strouse's boys happen to be around at the time.





# ir Navy's Sky Raider

(Continued from page 34)

According to 1949 budget authorizations, when present production contracts are completed, the Navy will have received approximately 500 *Skyraiders*, AD-1's, AD-2's, AD-3's and 4's, each differing only in type improvements. The AD-3 or 4 probably will be equipped eventually with the Wright Turbo Cyclone 18, the command version of the R-3350, which will greatly increase the plane's performance and range.

Attack Squadron 25 and its AD's were commissioned too late to engage in combat, but the squadron's success in applying new combat techniques with its equipment is demonstrated by its winning the Navy "M" Award for battle efficiency for the fleet competition period from July, 1947, to July, 1948. The triangle with the dot in the center emblazoned on the engine cowling of the planes of VA 25 is the insignia for the award.

The "one-two" assault punch of the squadrons hitting a target with a predetermined assortment of armament and advance while the fighter squadrons maintain top cover and then swing in to strafe the target, both types mounting a succession of coordinated blows to overwhelm the defenses. The devastating fire that rocket-carrying planes can throw is shown by the fact that when released in "ripple" the HVAR's chase each other to the target 140 feet apart at 1,500 mph, all being launched within one second. They may be released singly or in pairs.

A completely successful attack plane has to have more than power and load-carrying capacity. The Navy, like the Air Force, has had its share of "dog" aircraft, but pilots who fly the *Skyraider* are enthusiastic and completely sold on its flight characteristics and handling. It moves like a fighter, is light on the controls, has excellent visibility and gives honest performance. The pilot sits high and can see with no restrictions in all directions, including over the nose, while taxiing.

Perhaps one of the stronger reasons for the success of the AD series was the design routine which resulted in weight savings and simplification of several of the critical aircraft systems.

As one example of engineering success, the decision to simplify the fuel system and arrange for all normal fuel to be carried in a single internal tank not only reduced the total fuel system weight by a great margin over that in a previous type, but resulted in four additional advantages. The pilot's fuel tank switching responsibilities were eased, a number of boost pumps that might have been required were eliminated along with the added maintenance requirement, tank removal time was lowered to two man hours and tank filling time was reduced to about five minutes, the latter less than half of that required for multiple internal tank arrangements, a vital speed factor in combat servicing between flights.

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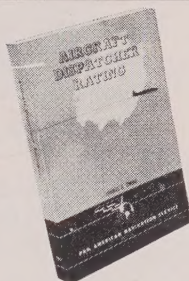
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The Douglas Company claims that the *Skyraider's* low wing and power loading, high load factor and stability and control make it the successful attack bomber that it has proven to be. Navy attack pilots rate the *Skyraider* as tops in its specialty, which happens to be all-around capability, a fairly exclusive tribute.

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# Who's a Fool?

## AN EDITORIAL

**H**EADLINE hunting is becoming a national pastime. Once an "occupation" peculiar to a breed of extroverts after fame rather than fortune, headline hunting is now becoming a tool of the press, a hand-wrought hammer wielded by certain editors who seem more anxious to destroy than to build. And the victim at the present is aviation.

In recent months headline hammerheads have popped up among the general-interest magazines. Most recent example was an article in the April issue of *Cosmopolitan* entitled "Damn Fools in the Air!" If you haven't read it, don't bother. We'll quote the sub-head, then suggest you open a window to let in some fresh air.

Says *Cosmopolitan*, "There are no stupider people anywhere than those who fly private planes. Stupid? They are vicious, criminal damn fools. Let's get rid of them before they give a black eye to organized air service."

That statement alone is proof that all the damn fools aren't in the air. A lot of them lurk behind desks and call themselves editors.

No one, not even the most ardent supporters of private aviation, will deny that private flying has its quota of pilot show-offs, damn fools who epitomize their brethren on the highways. However, for the supposedly intelligent editors of *Cosmopolitan* to permit such a blanket statement as that quoted above is sheer idiocy. It is juvenile naïvete at its worst, and the words are those of a self-opinionated hireling who deals in generalities and calls them fact. A similar example of "good" judgment and "sound" reasoning would be to call all smokers, arsonists, all auto drivers, man-slayers.

The article itself is a case of "yellow journalism," a play on the sensational to create readership . . . and a type of reporting that often is malicious in intent and misleading in fact.

As is typical of that kind of writing, the article leads off with a few horror paragraphs designed to stun the reader, unfamiliar with flying, into the acceptance of fault as predominating fact.

Then the writer back-slides into a rather average and uninteresting account of what is being done to correct and overcome aircraft accidents, facts familiar to all aviation enthusiasts. But the damage and deceit doled out to 626,165 licensed pilots and plane owners already has been done. *Cosmopolitan* has set the libelous stage . . . and plays on it.

Included in this article is a statement by a

so-called "acknowledged expert on the subject." This nameless Nemesis states, ". . . if the public knew the true rate of fatalities in private flying, this class of flying would not stand much chance of survival . . ."

*Cosmopolitan's* author, J. C. Furnas, has resorted to an old dodge in that "acknowledged expert" business. Apparently the "acknowledged expert," in remaining anonymous, does not choose to stand on his statement.

Every pilot and plane owner in the country has a right to raise his voice in protest over this journalistic sleight-of-hand, this attempt to malign the mastery of private flying as a whole. The private pilot who jeopardizes the safety of himself and others is the exception, not the rule. And the editor or author who closes his eyes to the masses and sees only the few is a biased bleater of the backstairs variety.

Similarly, the proponents of aviation who refuse to admit that improvements are needed is a hindsight of the same variety. But . . . and in this case it is a "but" of tremendous proportions . . . no magazine nor any editor or writer has the right to or is justified in condemning *all* private pilots because of the bad judgment of a few.

The private pilots of this country have been and could be again the backbone of our Air Force. The successful defense of our shores might well depend on those private flyers who are categorically condemned by *Cosmopolitan*. The editors and writers of general-interest magazines, in this case *Cosmopolitan*, would do well to consider the source of their material, particularly when that material has to do with subjects so apparently foreign to their know-how as private flying.

The record of private aviation is an enviable one. SKYWAYS will prove that fact.

In the July issue, SKYWAYS will present an article by Mr. James W. Batchelor, general counsel of the United Pilots & Mechanics Association and noted Washington aviation attorney. Mr. Batchelor only recently completed a factual study of the safety of private flying, and in his article he will show the steady improvement private aviation has made, the high degree of safety it already has attained, and the even higher goal it has set for itself.

SKYWAYS' "acknowledged authority" does not go nameless, and behind his statement will lie figures that prove.—J. FRED HENRY.